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AUTHOR Fein, Rashi; Bishop, Christine
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ABSTRACT

This eleventh special report of the National Commission for Manpower Policy examines the manpower, employment, and training implications of policy developments in the health care industry. Section 1 describes the health care industry setting, including health sector characteristics and health expenditure growth. Sections 2 and 3 deal with the employment of the largest group of health care workers: those employed by others and, particularly, those in institutional settings. In section 2 the past trends and future prospects for such workers are examined and includes the current utilization of professionals and paraprofessionals in health care, the forces that have stimulated health expenditure growth and those leading to expenditure restraints, and the labor market impact of mechanisms implemented to control expenditures along with countervailing forces working to continue past trends in growth. Section 3 explores some of the manpower policy implications inherent in future trends and developments in health labor markets. The fourth section, focusing on physicians, discusses the labor market for physicians and examines four potentially significant developments: policies to redistribute physicians, growing emphasis on primary care, growth of prepaid group practice, and increases in physician supply. The concluding section summarizes and then recommends nine ways to improve manpower policy planning and decisionmaking in the health care industry. (EM)

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Employment Impacts of Health Policy Developments

A Special Report of the
National Commission For Manpower Policy
Special Report No. 11,
October 1976

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FOREWORD

The National Commission for Manpower Policy has recognized that its charge from the Congress to help develop a national manpower policy requires it to consider the whole gamut of human resources development and utilization and not to limit its concerns solely to the unemployed and the hard-to-employ, urgent as this later assignment was in the face of the severe recession of 1974-75 and its aftermath.

In view of its broad perspective of manpower policy, the Commission, through its Chairman and staff, has participated in the work of the Commission on Defense Manpower--a conference on scientific manpower called by the President's scientific adviser in May 1976--and in symposia on scientific and professional manpower called by such concerned groups as the American Physical Society and the Joint Engineers Council, and by various specialty groups in the field of medicine.

The Commission early sought special funding from the Robert Wood Johnson Foundation to initiate studies of the health industry, with its more than 4 million employees at every level of training and competence, in the belief that the industry's manpower problems intersected at many points with national manpower policies, from federal capitation payments for professional training to enlarging opportunities for disadvantaged groups to obtain para-professional jobs and thereby improve their prospects.

The Commission was fortunate indeed to persuade Professor Rashi Fein of Harvard University to take on the assignment of assessing the interface between health manpower and general manpower problems, with the aim of specifying the agenda of issues that the Commission should consider in developing policy guidance.

The small number of specialists competent in both arenas of health manpower and manpower policy will recognize how well Professor Fein, in collaboration with Professor Christine Bishop, has carried through this assignment. The working paper sets out in brief context their best estimates of the prospective changes in the financing of the health care industry and how these changes will impact on the future demand for health manpower. They make a persuasive case for a rapid retardation in the rate of increase in expenditures and draw therefrom the

ineluctable conclusion that the long-term expansion in employment opportunities (since World War II), particularly for paraprofessionals, is nearing its end, if indeed the end is not already here.

Professor Fein and Dr. Bishop also look closely at the rapidly changing contours of the career opportunity structure for physicians and call attention to the important changes that are under way as a consequence of the rapid increase in their numbers, which is leading, in the late 1970s, to an increase in the size of graduating classes of about 80 percent over those of the late 1960s.

There is no need to detail in this Foreword the many important trends and interpretations that fill the Fein-Bishop study. Let me rather concentrate on a limited number of policy issues that the authors have identified, which the Commission will explore with interested groups, in and out of government, in an effort to formulate directions for constructive public action:

- The quarter-century rapid expansion of the health industry absorbed a great number of people seeking employment and career opportunities, especially from among the ranks of the disadvantaged. If this expansion is at, or near, the end what are the consequences flowing therefrom, particularly in a period when the economy is likely to suffer from excessively high unemployment? Is there a conflict between the goal that the health care industry continue to be an important arena for job creation and the goal that medical services be produced in an efficient manner? We know that increased government expenses for defense are conditioned, in part, by their employment-creating potential. Might an increase in the output of preventive and therapeutic services be justified on the same basis?

- With competition for jobs, especially good jobs, becoming more intense, members of minority and other disadvantaged groups who gained a toehold in the health industry during the past two decades of rapid growth face new challenges from more strongly positioned groups in the labor market, particularly whites and males. The working conditions, wages, and fringe benefits in the

large hospital sector of the health industry have improved not only absolutely but relatively over the past years. What can be done to insure that the more vulnerable members of the work force who now hold many of these jobs do not become the victims of renewed discrimination? If the employment outlook is less favorable than in years past, what steps can be taken to transmit this information to young people now in the process of making career decisions; and to the educational and training institutions that are still preparing large numbers of health workers?

- How do we reconcile the basic commitment of our society to the individual to freedom of choice with respect to career and work and the uneven distribution of physicians in terms of geography and specialty that impedes the delivery of health care? The market does not operate effectively to balance the demand for and supply of physicians, surely not to balance the "need" for an supply of their professional services. Congress, and to a lesser extent state legislatures, have begun to intervene by linking their continuing support for medical education to distributional goals of graduates both by specialty and by location. Among the open questions are the effectiveness of these new governmental interventions to accomplish the specified goals of redistribution; the costs entailed in seeking to accomplish them; and the secondary consequences of such actions on medicine, education, physicians, and the groups of consumers singled out for special assistance.

- One of the more tantalizing aspects of health manpower is the reliance on certification and licensing for quality control and the impediments that these approaches place in the way of the more effective utilization of health manpower. Each group of health professionals and technicians aims to control its sector of employment as tightly as possible, among other reasons, to reduce competition from others in the job hierarchy. But critical for effective utilization are opportunities for workers to acquire additional competence through on-the-job experience. And such opportunities for advancement are precluded by reliance on

certification and licensing. With personnel costs dominating the labor intensive health industry, significant gains await increasing internal mobility. But at present we are stymied between craft control in the name of quality assurance and occupational flexibility, which is a prerequisite for improved manpower utilization and cost containment. A new balance must be sought and found. The costs of occupational rigidity come too high.

The foregoing are suggestive of some of the critical policy areas that Fein-Bishop have identified. Now that the Commission has this useful document in hand it will move expeditiously to make it available to all interested parties for their review and will convene in the near future one or more conferences with an aim of identifying policy recommendations for those in a position to act as well as one or more conferences with an aim of developing a specific research agenda to further illuminate the interface between health and manpower policy.

ELI GINZBERG
Chairman

I. SETTING THE STAGE

Introduction

The American health sector and employment within it have been and continue to be affected in direct and indirect fashion by government policies and programs. Some programs are specifically designed to deal with particular health occupations and workers. Others direct their attention to the health industry, are part of general health care policy, but do not set health employment goals or targets and are not adopted in order to achieve particular labor market effects. Still others deal with the total economy, attempt to affect general economic conditions, but do not have an explicit health care "thrust." The various kinds of programs and policies, however, all affect the level and distribution of employment in the health industry.

The most direct impact on health workers is seen and felt through those programs that attempt to deal explicitly with the supply and allocation of particular health workers. These efforts are undertaken in an attempt to respond to perceived health manpower shortages and, within the context of national manpower policy, to reduce unemployment, ease labor supply bottlenecks, and equalize training and job opportunities. Thus, for example, the Health Professionals Education Act subsidizes training for physicians, dentists, nurses, and various other professional health workers in order both to provide increased educational opportunity and to attempt to add to the available supply of professional manpower; the National Health Service Corps employs physicians and dentists in selected underserved areas in an effort to alleviate the maldistribution of health manpower; and funds appropriated under the Manpower Development and Training Act and, more recently, the Comprehensive Employment and Training Act have supported the training of disadvantaged persons for potential health employment. In large measure, the goals of these programs are targeted in direct fashion at employment and training within the field of health care.

In addition to these very specific influences on total health sector employment and its occupational distribution, government affects the number of health workers in much more general ways. The effect of macroeconomic policy on the aggregate level of employment, production, and prices is felt throughout the economy and necessarily, therefore, in the health industry, an industry that today accounts for one-twelfth of the nation's Gross National Product (GNP). The economic conditions and climate within which the health sector operates and within which purchasers of and payers for care make their decisions is highly dependent on federal economic policy and its repercussions on personal incomes and on business, state, and local government revenues. This is the case even though health financing arrangements and the relatively low response of health care demand to changes in prices and incomes (that is, the low price and income elasticities) tend to reduce the sensitivity of the health sector and of employment within it to short-term economic fluctuations. A reduction in sensitivity is, after all, not synonymous with total insulation.

Yet a third impact of federal policy on employment in the health sector can result from the adoption and attempted realization of various health policy goals. This interface between health policy and manpower policy merits careful attention. Since labor is a significant input in the production of health care services, health manpower policy can affect the realization of health policy goals. Similarly, since the health sector accounts for a significant amount of employment, public policy for health can influence the achievement of broader manpower goals.

In this paper we shall discuss trends and policy developments in the health sector in order to highlight the interaction between health care policy and manpower policy. We believe that it is important for persons with responsibility in the manpower field to be more cognizant of various health policy developments and their potential impact on health sector employment. Similarly, we believe that it is imperative that those who develop

health care policy, including those who do so in the context of their fiscal responsibilities, be more cognizant of the impact that these policies and fiscal constraints may have on health sector employment. This is particularly necessary at this time, since, as a result of various forces, the American health industry is at a point at which we can no longer simply extrapolate previous trends. Some traditional assumptions may be changing; some significant departures from previous trends may be upon us.

Thus, it is not our intention to discuss, assess, or evaluate the impact of specific health manpower development programs, often quite limited in scope and budgetary authority, on general levels of health sector employment. Neither is it our intention to engage in a diffuse and nonspecific discussion of the impact of broad fiscal and monetary economic policies on health sector employment. Our interest lies elsewhere: in assessing past health employment trends, in questioning some traditional assumptions, in examining the directions in which health policy seems to be moving, and in considering the potential impacts that these policies might have on the number and nature of the jobs that will be available in the broad area of health care in the future. In so doing, we hope to provide an agenda for joint discussion between those with manpower policy responsibilities, those who formulate health policy, and those who through their fiscal decisions set the constraints within which the sector operates.

We believe our concern with these issues is warranted because the health sector is a large employer. Over 4 million persons work in the health industry. Whether or not one agrees that the industry is in "crisis," it is surely not debatable that the industry is in trouble and that it is increasingly facing public scrutiny. Decisions in regard to the sector, its funding, regulation, and financing are being made at the state, local, and federal levels of government and by a number of nongovernmental units, most specifically third-party payers. These decisions are part of new policies that attempt to alter the amount and composition of the demand for health care, to regulate health inputs and production processes, to affect incomes and working

conditions. Most often the various health policy decisions are not taken on manpower grounds; most often they are related to cost-control considerations. But funding patterns, payment mechanisms, and regulatory approaches that attempt to deal with the production and provision of health care necessarily affect the organization and delivery of care. They are not "neutral." They either stimulate change or act to preserve and strengthen the status quo. This is the case even when policies are adopted that are viewed as doing no more than "paying for care," and that do not explicitly attempt to influence the manner in which services are produced and provided. Even such apparently neutral policies affect manpower utilization. Thus, though the broad spectrum of health policy decisions is not ordinarily seen as part of manpower policy, its impact on the demand for and supply of health manpower and on its allocation is profound. Hence, we are concerned that a dialogue take place between the health and manpower policymakers.

In setting the stage for our discussion, we must draw a fundamental distinction, at the very outset, between two types of health workers: those who are employed and those who are self-employed (or who have the option of or potential for self-employment). The differences between them are so striking as to require that they be distinguished and, as we shall see, treated separately.

Physicians, dentists, and certain other workers are permitted under law to provide health services as independent professionals. They have the option of self-employment and, associated with that, a wide scope for control of the type of practice that they engage in, its location, the hours they work, and the fees they charge. Traditional market forces cannot be relied on to distribute these professionals and their services in response to clinical health needs of the population or even in response to consumer demand. The personal professional decisions of the self-employed can be validated by their power to shape the consumer's

demand for health care. To a significant degree, although more so in the past than is likely to be the case in the future, they are free, independent, and "masters of their own fate."

In contrast stand the vast majority of the 4.3 million workers in the health sector. These individuals act only with the supervision of the key professionals and/or under the aegis of employing institutions. They are employees not independent entrepreneurs. They have much less control over their income and working conditions and much less opportunity, therefore, to validate their private decisions. They must make their decisions within market constraints. Their employment and wages are directly dependent on the demand for services faced by their employers and on employment practices and production processes shaped by professionally determined health standards. Market forces appear to act in particular labor markets to match supply and demand through the mechanism of price.

Because these two types of workers, the independent professional and the less independent health care employee, fill very different places in our health care delivery system, we shall consider them separately. The implications of a given health policy program on these two kinds of labor may differ greatly. Thus, for example, efforts to control the utilization of hospital services through a utilization-review program may result in a reduced demand for hospital services and a consequent reduction in the derived demand for hospital workers. Conversely, a similar review program aimed at physicians' services may well result in price increases that attempt to compensate for the reduction in the volume of services as physicians act to maintain a target income.

Nevertheless, though particular health care policies may affect the employed and the self-employed in very different ways, both groups work within the same health care system. If we are to understand some of the basic

forces that have influenced health employment in the past and some of the factors that may influence it in the future, we must first briefly discuss some of the important characteristics of the American health care system.

Health Sector Characteristics

Medical care has a number of special characteristics that set it apart from other goods and services. These characteristics help explain the difference in attitude toward health care as a consumer good. They also help explain the development of some of the institutions found within the health sector and many of the special problems surrounding medical care. While these characteristics may appear self-evident, it is useful to recognize the influence that they have had on the development of the health care industry and particularly on the development of health insurance and on the rapid growth in health expenditures.

The first characteristic relates to what might be termed psychological considerations. Clearly, medical care is often felt to be, and indeed often is, intimately related to health and even to life itself. The average American believes in medicine, in the physician, in the hospital, in medical science and technology. He or she looks to the medical care system for the treatment of disease, for the alleviation of pain, for comfort and reassurance, for beneficial intervention. Neither life nor health is considered as just another commodity. Thus, it is not surprising that medical care, that which may extend life and bring health, has come to be considered a human right. The feeling that the quantity and quality of medical care received should depend on the need for care and not on the individual's income and purchasing power in the market is not something perpetrated upon the population by politicians in Washington; rather, it stems from a long tradition. It may be that the faith in medicine is unwarranted and that, in general, medicine can do much less than the public believes. Yet both patient and physician react to specifics, not only to

the "in general." Medicine succeeds in some cases, and each patient hopes it will succeed in his particular case.

A second characteristic that makes the medical marketplace different from other markets relates to uncertainty. Illness, and the consequent need and demand for care, cannot be predicted on an individual basis. Thus, the individual is unable to budget for his medical care expenses. He does not know the appropriate amount to save. Fortunately, while we cannot predict the need for care by the individual, we can do so for the group. Individual uncertainty does become group probability. In turn, this permits the pooling of resources through insurance. Health insurance, whether viewed as true insurance or as a collective budgeting device, is useful because health care costs for the individual may turn out to be very high and because illness often leads to a decline in earnings and in income.

Medical care services often have a third characteristic that is shared by few other commodities: individuals benefit from the next person's increase in health. This is most apparent in the case of communicable disease. All of us derive benefits from the immunization of others and from the prevention or treatment of the communicable disease that affects others. Externalities, a situation in which benefits or costs accrue to others because of actions taken by the individual, can be viewed even more broadly if we consider noncommunicable disease. Although the next person's good health does not reduce the risks that others face, their satisfaction may be increased when the next person is healthy, since they may suffer pain, annoyance, embarrassment when they see or know sick people. Economic theory has demonstrated that where externalities exist, there is a basis for societal intervention.

Finally, medical care can be distinguished from other services in the consumer's relative inability to make judgments regarding the quantity of care appropriate and the quality of the services he receives. The

combination of consumer ignorance and the importance of health leads to a number of consequences. It means, for example, that a high proportion of health expenditures are determined by professionals--most often, physicians--who decide for the consumer what would be appropriate. Expenditures are really not discretionary. Consumers are not weighing the potential costs and benefits of various procedures, say, balancing the costs and satisfactions to be derived from one more day of hospital care in contrast with something else. In large measure, these decisions are made for them. Health care consumption is still further removed from the typical consumer decision process by the presence of insurance, which reduces or eliminates the cost to the patient of covered services. Physicians can, therefore, significantly influence the demands placed upon the health system, including the demand for their own services. It is this phenomenon that permits the physician, as we have indicated, to validate his specialty and location decisions and that makes possible the maldistribution of physician resources.

Each of the factors mentioned is significant. In combination, they exert a powerful influence on the structure, organization, and utilization of medical care. They have helped shape the nature of the medical economy, especially the financing of health care in the United States and the growth of health insurance. In turn, the way health care is financed has had much to do with the growth of health expenditures. It is this rapid growth that provides the setting within which health policy is being formulated.

Health Expenditure Growth

As recently as two decades ago, in fiscal year 1955, total health expenditures equaled $17 billion, amounting to 4.6 percent of the Gross National Product. In that year personal health expenditures totaled $15 billion; 77 percent of these expenditures were private, and 59 percent, or $9 billion, were direct payments by consumers of medical care. The public sector accounted for 23 percent of personal health expenditures, with $1.6 billion coming

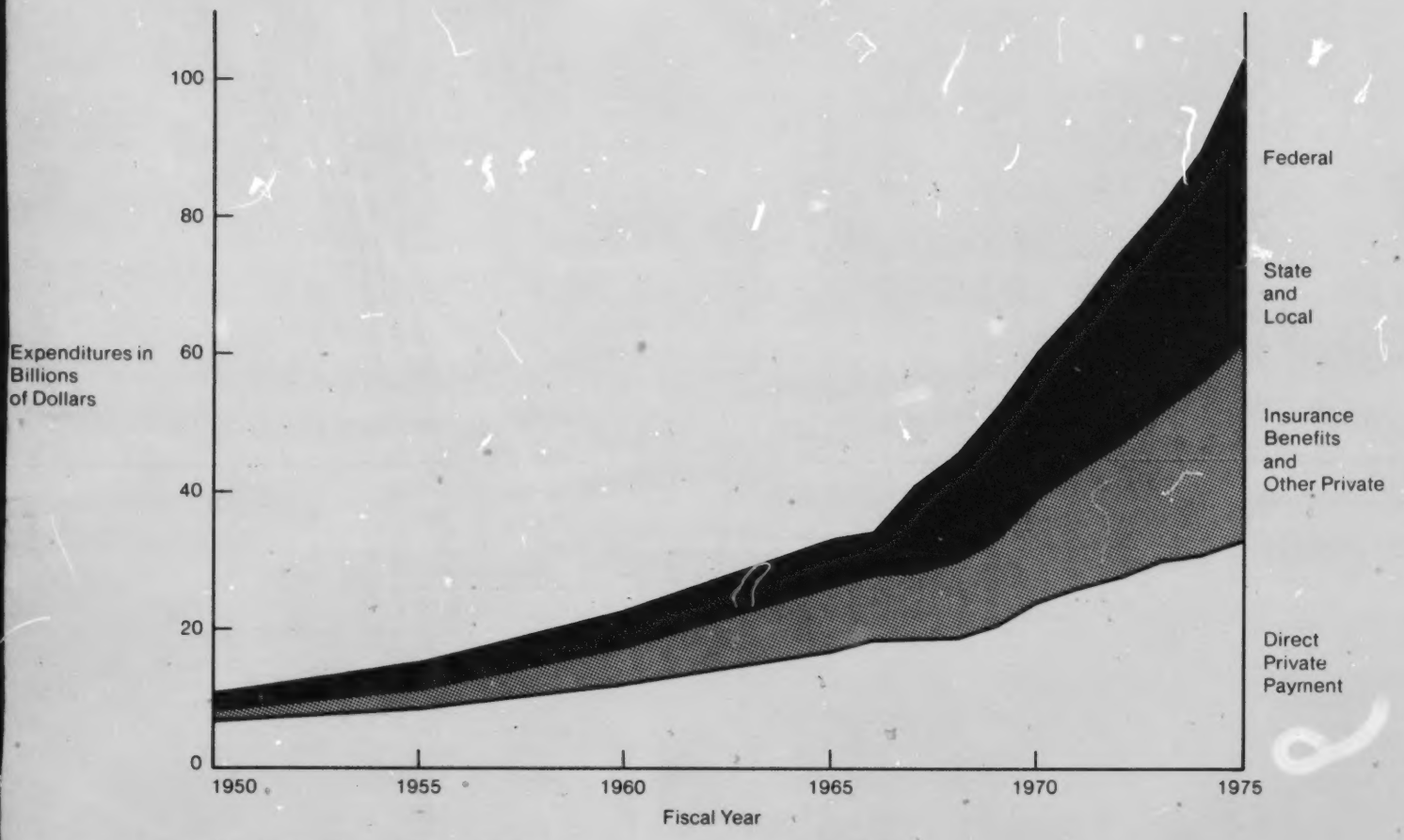
from the federal government and a slightly higher amount, $1.9 billion, from state and local governments. A decade later, total health care expenditures had risen to $39 billion, equaling 5.9 percent of GNP, and personal health expenditures accounted for $33 billion. In spite of these significant increases, the public/private funding mix remained about the same: 79 percent of the expenditures were private, and 53 percent, or $18 billion, were direct payments by consumers. The public sector accounted for 21 percent of personal health expenditures, with the federal government expending $2.8 billion and state and local governments $4.1 billion.

Both the absolute sums and the proportions expended by various parties changed significantly after the implementation of Medicare and Medicaid in 1966. By 1970, health expenditures totaled $69 billion, representing 7.2 percent of GNP; personal health care expenditures were $60 billion, and only 66 percent were derived from private funds. Within this category, the proportion accounted for by direct payments by consumers dropped to 40 percent (representing $24 billion). The public sector accounted for 34 percent of all expenditures, with the federal government expending $13 billion and state and local governments expending $7 billion.

In the latest year for which data are available, fiscal year 1975, national health expenditures totaled $118.5 billion, or a full 8.3 percent of GNP. Personal health expenditures equaled $103 billion; 60 percent of these expenditures were private, and the proportion accounted for by direct payments was down to 33 percent. The federal government expended $29 billion, state and local governments accounted for $12 billion.

Thus, we see that in the short span of one decade, federal expenditures for personal health care grew from $2.8 billion to $28.6 billion, a tenfold increase. Not to be overlooked, however, is the fact that during the same period of time, direct payments by individuals almost doubled, and insurance benefits and state and local government expenditures tripled. Figure 1 shows this growth in graphic form.

Figure 1. Personal Health Care Expenditures by Source of Funds, 1950-1975.



Source: Mueller and Gibson, 1976.

The proportion of total expenditures accounted for by the various sources has altered significantly; yet as a consequence of the extremely rapid growth in personal health care expenditures, a growth of some $70 billion in one decade, every sector is spending more dollars than before: state and local governments have increased their personal health care expenditures by $8 billion since 1965; private direct payments have increased by $16 billion; and insurance benefits have increased by $19 billion. Thus, it is not surprising that combined with the growing awareness of the rapid increase in health expenditures, there is a growing concern expressed both in the private and in the public sector about rising health care costs. There is also a growing interest in exploring methods to contain these costs.

The growth in health expenditures and in the proportion that health expenditures represent in the Gross National Product (see Table 1) has been striking. Why, however, should there be concern and an effort to contain future expenditure increases? Do not these increases reflect changing tastes and desires of the sovereign consumer? Is it not true that in a market economy, an increase in consumer expenditures--not fully accounted for by price increases--for particular goods or services (say, automobiles or housing) can be assumed to reflect an increase in consumer demand? If such expenditures represent an increasing proportion of all expenditures, we normally do assume that there has been a shift in public tastes. This provides the explanation for the fact that consumers choose to spend a growing proportion of their personal resources on the product under consideration while at the same time reducing the proportion spent on other goods and services. However, owing to the characteristics discussed above, consumer decisions play a somewhat different role in the health sector than is the case in the market for other goods and services. The growth in health expenditures does not provide the normal, clear-cut evidence that individuals or the society have chosen, in a deliberate and explicit way, to devote an increasing amount of real resources to health care.

Table 1. HEALTH EXPENDITURES AS A PROPORTION OF GROSS NATIONAL PRODUCT (GNP), SELECTED FISCAL YEARS, 1950-1975

Fiscal Year	Health Expenditures (Billions)	Percent of GNP
1950	12.0	4.6
1955	17.3	4.6
1960	25.9	5.2
1965	38.9	5.9
1966	42.1	5.9
1967	47.9	6.2
1968	53.8	6.5
1969	60.6	6.7
1970	69.2	7.2
1971	77.2	7.6
1972	86.7	7.9
1973	94.4	7.8
1974	104.0	7.7
1975	118.5	8.3

SOURCE: U.S. Department of Health, Education, and Welfare, Research and Statistics Note No. 20, 1975.

It is in this setting that decisions that affect the health care industry are being taken. To summarize, health and medical care have characteristics that set them apart in a fundamental manner from most other goods and services. These characteristics and the institutions created in response to them have contributed to and heavily influenced the startling and rapid increase in the level of health expenditures and in the allocation of real resources to the health sector. The world is very different from that which existed only a short decade ago. As a consequence, these health expenditures have increasingly become a source of concern to all affected parties. Since the growth in expenditures is not fully explained by population growth or by shifts in consumer tastes, public and private authorities with responsibility for paying the bills have begun to question whether these expenditures can, in fact, be contained in the absence of new health care policies. These authorities are aware that resources are limited and must be allocated. They are deeply troubled that behavior patterns in the health sector have, in the past, seemed to reflect a view that resources--at least for health care--were infinite.

We do not suggest that in this new setting it is possible to discern the wide variety of actions that public policy will take. We do believe, however, that there are strong grounds for the conclusion that the health sector will face very different financial constraints in the future than has been the case in the past. It is to the implication of health sector employment of what we see as the new directions in public policy that we now turn. In so doing, we shall deal first with the largest group of workers: those who are employed by others and particularly those who are employed in institutional settings. We examine the past trends and future prospects for such workers and discuss some of the issues that an emerging manpower policy must address in regard to their occupational distribution and employment opportunities. Following this exploration we shall discuss some of the trends that we discern in regard to the independent professionals (generally self-employed) and, in light of those trends, some of the policy issues that relate to the substitution of various kinds of newly developing manpower for the traditional, independent professional provider.

II. EMPLOYMENT IN THE HEALTH CARE SECTOR: PAST TRENDS AND FUTURE PROSPECTS

Health Sector Employment: Composition and Growth

The decade of the 1960s was the decade in which United States health expenditures grew from $26 billion to $69 billion, from 5.2 to 7.2 percent of GNP. It was also the decade of explosive growth in health sector employment. Census data indicates that between 1960 and 1970 the number of persons working in the health sector expanded from 2.6 million to 4.3 million persons, by almost 65 percent. Since the number of employed workers in the total economy grew by only 18 percent in the same period, health sector employment was expanding at almost three times the annual rate of growth of all workers. Furthermore, since the health industry was not a "small" employer or a new industry starting from a tiny base, the rapid growth of a significant sector meant that approximately 13 percent--one out of every eight--of all new jobs created in the decade of the 1960s were in the health industry.1/

Regrettably, comparable figures for the non-Census years since 1970 are not available. Nevertheless, an examination of data that are available using different definitions and excluding certain workers (see Table 2) appears to indicate that although the rate of growth of health sector employment has slowed in very recent years, health employment has nevertheless continued to increase at a more rapid pace than has total employment.

1/ The data on employment are associated with an industrial rather than an occupational classification. They therefore include those employed in a health facility or found in the health sector, including non-health-specific workers such as clerks and janitors along with the health professionals, technicians, managers, and aides. Conversely, these Census data do not include persons in health occupations who are employed in an industry outside the health sector, for example, public school nurses or physicians employed by a manufacturing concern.

Table 2. EMPLOYEES IN THE NONGOVERNMENT HEALTH SECTOR, 1960-1975

Year	Employees		
	Total	Male	Female
1960	1,547.6	354.3	1,193.3
1961	1,640.1	375.4	1,264.7
1962	1,739.3	401.1	1,338.2
1963	1,837.0	421.3	1,415.7
1964	1,963.0	441.4	1,521.6
1965	2,079.5	460.5	1,619.0
1966	2,204.2	469.9	1,734.3
1967	2,434.3	503.6	1,930.7
1968	2,638.6	515.1	2,121.2
1969	2,862.1	544.5	2,317.6
1970	3,057.2	580.5	2,476.7
1971	3,254.2	622.1	2,632.1
1972	3,426.6	671.5	2,755.1
1973	3,649.1	710.9	2,938.2
1974	3,926.9	766.0	3,160.9
1975	4,193.5	828.4	3,365.1

NOTE: These figures, for Standard Industrial Classification 80, differ from Census industry employment figures reported in the test, since they exclude government employees, self-employed workers, and unpaid family workers.

SOURCE: Employment and Earnings, various years.

The focus of this section will be on employment trends for the less independent workers, those who do not have the option of self-employment. The independent professionals who are self-employed or who have that option hold a key place at the pinnacle of the manpower pyramid but represent only a small proportion of the over 4.2 million workers in the health industry. (See Table 3, which shows the percentage of health sector workers who were actually self-employed. It is interesting to note that a high proportion of male health industry workers fall in this category.) Who are the others?

All of us are aware, even from the most casual empiricism, that the distribution of health sector employees (in terms of their demographic and socioeconomic characteristics) is very different from that of the labor force employed in the rest of the economy. Various groups are significantly "overrepresented" in the health industry (as compared with their representation in the total work force). The health sector, for example, provides a higher proportion of jobs than does the economy as a whole to black men and women, to Spanish-heritage men, and most strikingly to women of all races, who account for almost three-quarters of the employed health sector labor force at the same time that they represent less than 40 percent of the total labor force of the nation. (See Table 4.) Furthermore, growth in employment between 1960 and 1970 also was not evenly distributed by race, sex, and skill level. (See Tables 5 and 6.) Employment of women, especially black women, grew most rapidly, and service, clerical, and managerial workers increased their share of health jobs while the proportion of health industry workers in professional and technical jobs declined. Particularly striking is the absolute growth of over 800,000 service employees. Table 7, which shows the distribution of health specific workers by occupation, provides a sense of the relative magnitude of employment in various health jobs.

Table 3. PERCENT EMPLOYMENT BY TYPE FOR ALL INDUSTRIES AND THE HEALTH INDUSTRY

Type of Employment	Employed Males		Employed Females	
	All Industries	Health Industry	All Industries	Health Industry
Total	100.0	100.0	100.0	100.0
Private Wage and Salary Workers	75.5	44.6	75.9	74.9
Total Government Workers	14.0	31.1	19.5	22.9
Federal	4.6	7.7	3.8	3.1
State	3.4	14.4	4.9	9.0
Local	6.1	9.0	10.8	10.8
Self-employed	10.2	24.2	3.7	1.9
Unpaid Family Workers	.2	.1	1.0	.4

SOURCE: Calculated from United States Census, 1970.

Table 4. PROPORTION OF WORKERS IN TOTAL EMPLOYMENT AND IN THE HEALTH INDUSTRY BY RACE AND SEX, 1960 AND 1970

Race and Sex	Percentage of All Workers		Percentage of All Health Workers		Index of Overrepresentation A/	
	1960	1970	1960	1970	1960	1970
Total Black	9.4%	9.6%	12.0%	13.6%	1.28	1.41
Male	8.4	8.5	12.3	11.9	1.46	1.40
Female	11.6	11.4	11.9	14.2	1.02	1.24
Total Spanish Heritage	--	3.8	--	3.5	--	.92
Male	--	4.0	--	4.4	--	1.10
Female	--	3.4	--	3.1	--	.91
Total Female	32.8	37.8	69.7	74.6	2.13	1.97

A/ The index of overrepresentation is calculated as the ratio of the percentage of health sector jobs held by the race-sex group to its percentage of total employment. For example, blacks were 12.0 percent of health sector workers in 1960 but only 9.4 percent of all employed workers; the index thus is $\frac{12.0}{9.4} = 1.28$.

SOURCE: United States Census, 1960 and 1970.

Table 5. HEALTH EMPLOYMENT GROWTH BY RACE AND SEX, 1960 AND 1970

Race and Sex	Year		Annual Rate of Growth
	1960	1970	
All Health Sector Employment:			
Total	2,578,214	4,246,187	5.1%
Male	780,971	1,080,518	3.3
Female	1,797,243	3,165,669	5.8
Black Health Sector Employment:			
Total	310,082	577,810	6.4
Male	95,891	129,090	3.0
Female	214,191	448,720	7.7

SOURCE: United States Census, 1970.

Table 6. OCCUPATIONAL COMPOSITION OF THE EMPLOYED HEALTH LABOR FORCE, 1960 AND 1970

Occupational Classification	Year				Annual Rate of Growth
	1960		1970		
	Number	Percent	Number	Percent	
Total	2,578,214	100.0	4,246,187	100.0	5.1%
Professional, Technical, and Kindred	1,161,536	45.1	1,600,935	37.7	3.3
Managers, Officials, and Proprietors	49,465	1.9	112,129	2.6	8.5
Clerical	397,391	15.4	687,001	16.2	5.6
Service	796,505	30.9	1,628,572	38.4	7.4
Other	173,317	6.7	217,550	5.1	2.3

SOURCE: United States Census, 1960 and 1970.

Table 7. ESTIMATED PERSONS EMPLOYED IN SELECTED OCCUPATIONS WITHIN EACH HEALTH FIELD, 1973

Health Field and Occupation	Active Workers
Total[A]	4,403,450 to 4,448,250
Administration of health services	48,200
Health department and public health administrator	5,200
Hospital administrator and assistant	17,000
Nursing home administrator and assistant	16,000[B]
Voluntary health agency administrator and program representative	10,000[B]
Anthropology and sociology	1,600[B]
Anthropologist - cultural and physical	700
Sociologist - medical	900
Automatic data processing in the health field	4,000
Systems analyst and programmer	4,000
Basic sciences in the health field[C]	60,000
Research scientist (other than physician, dentist, veterinarian)	60,000
Biomedical engineering	11,500
Biomedical engineer	4,000
Biomedical engineering technician	7,500
Chiropractic	15,500
Chiropractor	15,500
Clinical laboratory services	162,800
Clinical laboratory scientist	5,500
Clinical laboratory technologist	90,300
Clinical laboratory technician and assistant	67,000
Dentistry and allied services	274,400
Dentist	105,400
Dental hygienist	21,000
Dental assistant	116,000
Dental laboratory technician	32,000
Dietetic and nutritional services	68,000
Dietitian and nutritionist	45,000
Dietetic technician and food service supervisor	23,000

Table 7. p. 2

Health Field and Occupation	Active Workers
Economic research in the health field	400[B/]
Economist - health	400
Environmental sanitation	17,000 to 20,000
Sanitarian	12,000 to 15,000[B/]
Technician and aide	5,000
Food and drug protective services	44,400
Inspector (health, food and drug, other)	15,000
Food and drug chemist, microbiologist	1,000
Food technologist	25,000
Food technician	3,400
Funeral directors and embalmers	50,000
Funeral director and embalmer	50,000
Health and vital statistics	1,350[D/]
Health statistician	1,100
Vital record registrar	150
Demographer	100
Health education	22,500 to 23,000
Public health educator	2,500 to 3,000[B/]
School health educator, coordinator	20,000[B/]
Health information and communication	6,700 to 9,300
Biomedical photographer	2,000[B/]
Health information specialist and science writer	2,000 to 4,000
Medical writer	1,200
Technical writer and editor	1,000 to 1,500[B/]
Medical illustrator	500 to 600[B/]
Library services in the health field	7,900[B/]
Medical librarian	3,800
Medical library technician and clerk	4,100
Medical records	54,000
Registered record administrator	9,000
Accredited record technician	45,000
Medicine and osteopathy	345,300
Physician (M.D.)	333,300[B/]
Physician (D.O.)	12,000[B/]
Midwifery	4,200
Lay midwife	2,900
Nurse-midwife	1,300

Table 7. p. 3

Health Field and Occupation	Active Workers
Nursing and related services	2,207,000 to 2,212,000
Registered nurse	815,000
Practical nurse	459,000
Nursing aide, orderly, attendant	910,000
Home health aide	23,000 to 28,000
Occupational therapy	13,200 to 14,200
Occupational therapist	7,700
Occupational therapy technician, assistant	5,500 to 6,500[B/]
Opticianry	11,000
Dispensing optician	11,000
Optometry	24,200 to 24,400
Optometrist	18,400
Optometric assistant	5,000[B/]
Optometric technician	800 to 1,000[B/]
Orthotic and prosthetic technology	2,500 to 3,500
Orthotist and prosthetist	2,500 to 3,500
Pharmacy	132,900
Pharmacist	132,900
Physical therapy	24,600
Physical therapist	16,500
Physical therapy technician, assistant	8,100
Podiatric medicine	7,100[B/]
Podiatrist	7,100
Psychology	27,000
Psychologist	27,000
Radiologic technology	100,000
Radiologic (X-ray) technologist, technician, assistant	100,000
Respiratory therapy	11,000 to 12,000
Respiratory therapist	11,000 to 12,000
Secretarial and office services in the health field	275,000 to 300,000[B/]
Receptionist, secretary, assistant, aide	275,000 to 300,000
Social work	33,800
Social workers - medical and psychiatric	29,500
Social work assistant and aide	4,300[D/]

Table 7. p. 4

Health Field and Occupation	Active Workers
Specialized rehabilitation services.	11,050[B/]
Corrective therapist	1,100
Educational therapist	350
Manual arts therapist	900
Music therapist	2,200
Therapeutic recreational specialist	6,000
Home economist in rehabilitation	500
Speech pathology and audiology	26,500
Speech pathologist and audiologist	26,500
Veterinary medicine.	26,900
Veterinarian	26,900
Vocational rehabilitation counseling	17,000
Vocational rehabilitation counselor	17,000
Miscellaneous health services.	252,950 to 258,450
Ambulance attendant	207,000
Animal technician	5,000[B/]
Electrocardiograph technician	9,500[B/]
Electroencephalograph technician	3,500 to 4,000
Operating room technician	11,400[B/]
Ophthalmic assistant	15,000 to 20,000[B/]
Orthoptist	450[B/]
Physician's assistant	900
Surgeon's assistant	200

A/ Each occupation is counted only once. For example, all physicians are in medicine and osteopathy.
B/ Previous estimate repeated in absence of sufficient information on which to base revision.
C/ Statistics are not available on what percentage of the estimated 250,000 physical scientists are employed in the health field.
D/ 1968 estimate repeated in absence of sufficient information on which to base revision.

NOTE: These occupational statistics report persons employed in health-related occupations in all industries, and thus differ from health industry employment statistics presented in the text and previous tables.

SOURCE: Department of Health, Education, and Welfare, 1974.

It is important that we recognize that not only has the health industry been offering an increasing number of job opportunities to the American population, providing employment both to new entrants and to those already in the labor force, but also that these increased employment opportunities have been especially beneficial to women, blacks, Spanish-heritage workers, and to clerical and service workers. The contribution of the growth in health sector employment in bringing us closer to the attainment of the nation's full employment goals than we otherwise would be is clear and is highlighted by a comparison of the distribution of health employment and of the unemployed. (See Tables 4 and 8.) Apparently, the health sector has been prepared to provide jobs to workers who are underrepresented in other sectors and who are more likely to be unemployed. While of course it is impossible to be certain how the 1.6 million new entrants into the health industry in the decade of the 1960s might have fared had the health sector not expanded--had health expenditures not increased, these dollars would have been available for the purchase of other goods and services, helping to create employment opportunities in other industries--it is reasonable to suggest that the economy would have faced even higher unemployment rates for the demographic groups and skill levels that have been the particular beneficiaries of the expansion in health care jobs.

Extrapolation of past employment-growth trends into the future yields a rosy projection for health employment and, thus, for the continued and expanding availability of job opportunities in the health sector for disadvantaged labor force groups. Those concerned with manpower and employment policy could derive comfort from such a projection--after all, the continued rapid expansion of a sector in which employment grew by 65 percent in one decade would ease emerging manpower problems and make the task of manpower policy that much easier. Unfortunately, there are strong reasons to regard such projections as too optimistic. An extrapolation of past trends may be quite unwarranted. Put simply, we do not believe that the health industry can be counted on to provide a continuing significant increase in the number of jobs.

Table 8: COMPOSITION OF THE LABOR FORCE AND OF UNEMPLOYMENT BY SEX AND RACE, 1970

Sex and Race	Percentage of Labor Force	Percentage of Unemployed	Index of Overrepresented A/
Total	100.0	100.0	1.00
Male Total	61.9	55.1	.89
White	55.8	46.3	.83
Black	5.7	7.8	1.35
Spanish-heritage	2.5	3.4	1.35
Female Total	38.1	44.9	1.18
White	33.1	36.4	1.10
Black	4.8	7.9	1.63
Spanish-heritage	1.3	2.5	1.85

A/The index of overrepresentation is calculated as the ratio of each race-sex group's percentage of total unemployment to its percentage of the labor force. For example, while white men make up 55.8 percent of the labor force, they are only 46.3 percent of the unemployed; the index thus is $\frac{46.3}{55.8} = .83$.

SOURCE: United States Census, 1970.

Our assessment of the potential for slackening growth in health sector employment is based on our belief that the forces that brought about recent growth are weakening. The very rapid, almost runaway, expansion in health expenditures that made possible the expansion in employment has brought into play countervailing forces that are beginning to inspire development of public policies to restrain expenditure growth in the future. Owing to the extremely rapid rate of expansion, and because of a greater understanding of the dynamics of health sector growth, a new climate of opinion toward American health care is forming. Although, as we shall see, forces for expansion in expenditures and employment are still present, these forces are likely to be outweighed by the new policy directions that recent health sector developments have induced. Since our argument is based upon our understanding of the relationship between growth in health expenditures and in health employment in the past and on our assessment of the potential for continued expansion of health expenditures in the future, it is necessary that we discuss these relationships and our assessment of future trends.

Sources of Growth in Health Expenditures

We have already delineated the rapid growth in health expenditures and in expenditures for personal health services in the last two decades. It is now important to examine the forces that have stimulated and encouraged the growth that has taken place and to suggest how the seeds of restraint of health sector employment expansion will grow from these forces. The sources of expenditure growth for health services can be divided into two parts, each contributing significantly to expansion. First, there has been an increase in the total amount of services provided, as a result of increases in population, income, public taste for medical care, and, most important, ability of consumers to pay for care through private insurance plans and public health care programs. Second, health care prices have increased, in part because of increased consumer demand and in part because of the fact that the cost-reimbursement mechanisms of insurance plans and the rising demand for higher quality care have

induced an increase in inputs per unit output. Both utilization increases and the increase in inputs per unit output have increased health sector labor demand. We expect both of these expansionary trends to be restrained in the future.

Utilization Increases: Some of the increase in demand for health care derives from the 34.5 percent growth of the American population between 1950 and 1970. Even if per capita expenditures had remained constant, total health care expenditures would have grown by this proportion as well.

The American population has, however, not only increased but, on the average, has become more affluent. Family incomes have risen, and a number of demand studies have shown that health care services are "normal" goods: as family incomes rise, consumers tend to purchase more health services when the impact of other factors, such as net price and health status, is taken into account. (See Jeffers, 1971; Anderson and Benham, 1970; and Feldstein, 1973.)

While population growth, the increase in real income, and even a shifting public "taste" toward medical care as a result of advances in the science of medicine help explain the increase in demand for medical care services, it is important to recognize that, for the most part, these desires could be validated so that need and desire for medical care were translated quite readily into effective demand. The importance of the difference in the way health care and other goods and services are paid for cannot be exaggerated. Private and public health insurance and other third-party payment mechanisms have played a most important role in helping to fuel the rapid increase in expanditures.

Private health insurance and public payment cover most hospital expenses and a large proportion of many other types of health care. (See Table 9.) Insurance coverage appears to encourage increased utilization of covered services. While for most goods and services, consumers have to make decisions about whether the commodities are worth the price, in the case of insured health care, price barriers to consumption have been lowered or even entirely removed. Although it is true

Table 9. PERCENTAGE DISTRIBUTION OF PERSONAL HEALTH EXPENDITURES BY SOUCE OF FUNDS, SELECTED YEARS 1950-1974 A/

Year	Public Payment and Insurance Benefits			Direct Payment by Consumer
	Total	Public Payment	Insurance Benefit	
1950	31.5	22.4	9.1	65.5
1955	39.1	23.0	16.1	58.1
1960	42.9	21.8	21.1	54.9
1965	46.2	21.1	25.1	51.8
1966	48.4	24.7	23.7	49.7
1967	55.0	33.2	21.8	43.2
1968	58.3	35.4	22.9	40.1
1969	58.3	35.0	23.3	40.3
1970	59.0	34.3	24.7	39.5
1971	60.6	35.5	25.1	38.0
1972	61.4	36.4	25.0	37.3
1973	62.3	36.5	25.8	36.3
1974	65.1	38.4	26.7	33.6

A/ Total of public payment, insurance benefits, and direct payment do not add to 100 percent due to payment made by philanthropy and industry.

SOURCE: Adapted from Social Security Administration Research and statistics Note No. 5.

that patient utilization is heavily influenced by physicians' advice concerning what type and amount of care to utilize, physicians are aware of, and are influenced in their decisions by, their patients' insured status. Empirical findings concerning the impact of insurance on utilization (see especially Feldstein, 1970) suggest that the physician, acting as the patient's agent, is slightly more likely to hospitalize a patient, more likely to keep him in the hospital longer, and more likely to recommend surgery or other services if the patient is covered by insurance. When, as is often the case, there is more than one way of dealing with a given medical situation, the choice of treatment mode is probably greatly influenced by insurance: an uninsured patient (or his physician) might find it necessary to select a low-cost treatment modality; in contrast, the insured individual is encouraged to pursue the course his physician recommends as "the best" without financial worry. Similarly, if insurance covers the individual for certain types of care and not for others, the types of care that are covered will tend to be the ones utilized. Since people are more likely to be covered for physician services, diagnostic tests, and drugs used during a hospital stay, it is not surprising that, faced with a choice, rational consumers and their physicians choose hospitalization over outpatient treatment, thus increasing the utilization of hospital care. This increase in utilization due to the increasing numbers of people with insurance coverage and the increasing numbers of covered services has had a discernible impact on the demand for health sector labor.

Price Increases: Expenditure increases have been accelerated by increases in health care prices. This inflationary pressure has developed partly because, even as insurance made the consumer less price conscious, providers of care often found that price increases could be passed on "painlessly" and would be validated by the "permissiveness" of third-party payers. Those who paid for the care often exhibited relatively little diligence in monitoring prices and attempting to constrain their increase. These price increases contributed their share to the growth in health expenditures and thus to the new attitudes toward the need for restraint of inflation in the future.

But unit cost increases involve much more than increased prices for the same output. Were that alone the case there would be little impact on labor demand. In fact, however, unit cost increases have been associated with changes in the medical care "production function." The payment mechanisms employed by private health insurance and public health care programs act to encourage producers, most notably hospitals, to upgrade both the real and perceived quality of care produced. Thus, for example, health insurance has encouraged and permitted hospitals to increase the "intensity" of the production process, the quantity of inputs per unit output. This ability to expand the real resource input into health care has been most evident in the acute general hospital. The number of personnel per patient day in these institutions has grown from 1.78 to 2.36 over the last 25 years. (See American Hospital Association, 1975, page 4.) Furthermore, expansion of capacity and of the range of services provided in each hospital, while partly a response to increased demand, has also been viewed as an increase in quality. Insofar as this additional capacity to provide services is unnecessary or is inefficiently utilized, it also increases input per unit of output. Finally, increases in medical knowledge have played an important part in encouraging complexity. A day of hospital treatment involves a much more complex mix of services today than was the case in 1950. Medical science provided the knowledge base for this complexity, but the willingness of third parties to pay, on behalf of the consumer, for this increased complexity of service and range of hospital service capacity, under conditions that hardly encouraged institutions to avoid duplication and to economize on the resources used in production, made it possible to translate technological advances into the daily life of the hospital. This willingness to pay is embodied in the mechanism of cost reimbursement, which provides little reward or incentive for developing techniques that might produce the same output with fewer resources or for developing cooperative programs within the hospital sector, programs that might have avoided redundancy of high technology capacity and associated personnel. Given the American consumer's belief that quality is associated with the complexity of technology, the range of complex services, and even with high costs, and given the growth of cost reimbursement as a payment

mechanism for health care, it is not surprising that real resources (including labor resources) per unit of output, and thus cost per unit, have increased and increased rapidly. In an atmosphere in which prices could be raised with relative impunity, additional revenues provided the funding for additional resource use. In an atmosphere in which all incentives were to expand the resource base, the ability to increase prices acted to remove constraints.

In summary, then, a variety of forces acted to increase price levels for medical services and also acted to increase total production of these services. Health insurance played a major part in these two outcomes. In addition, it had a major impact on the ability, particularly of institutions, to realize their desire to expand. Employment increases thus stemmed from the increase in demand, the increase in intensity, and the expansion of the range of services offered. In combination, the increase in price level, the increase in demand, and the availability of more complex services caused an explosive trend in health expenditures, a trend that has led us to our current situation.

Forces Leading to Expenditure Restraint

We believe that this situation of rapidly rising, apparently unconstrained expenditure increases in itself increases the likelihood of attempts to control future expenditure growth. Since past growth of the health sector has been directly responsible for health employment growth, restraint will mean fewer new jobs. As the health sector adapts to a changing environment, the impact of a strategy of expenditure restraint on health labor force growth will be substantial.

What evidence is there that the constraints and incentives facing the health sector in the years ahead will look different from those of the recent past? What evidence is there that society will act to control the growth of health expenditures? Clearly, we cannot review recent health care policy in detail, but since so much of our discussion hinges on our assessment of a changing attitude toward the health sector, it is necessary to discuss some of the new directions that we sense.

A newly emerging force for change is the assumption of a more active role in the health care marketplace by the major payers for care. As we have seen, almost two-thirds of all health expenditures are accounted for by private insurance companies and by government agencies. The mechanims set up for this payment have not encouraged, and in some cases have not permitted, these third parties to realize their potential as dominant purchasers in the health care market. In the past, decisions to make use of insurance benefits were essentially in the hands of patients and their physicians, and the costs per unit of care were determined by providers under cost reimbursement. Under such arrangements, private insurance companies must raise premiums and governments must raise taxes when expenditures per beneficiary rise. The recognition is now dawning that this cost-pass-through arrangement has built-in shortcomings and requires amendment. Major purchasers increasingly feel the need for positive action to control expenditures. The specific mechanisms they have initiated to do so will be reviewed below. First, we shall examine the factors that have awakened the long-dormant, potenital bargaining power of third-party payers.

Clearly, it is becoming increasingly more difficult for private insurance companies to raise premium levels. Payment for health insurance has become an increasing proportion of fringe benefits offered by employers and of the total wage and fringe benefit bill. It is an important bit of evidence that General Motors reports that its annual health insurance costs per employee total on the order of $1,600, or perhaps as high as $.80 per hour. Such sums cannot be easily ignored or brushed aside. Thus, employers, employees, and individuals covered under nongroup plans complain bitterly about increased premium payments and have begun to shop more carefully for health insurance and to attempt to bargain with insurers. In addition, the power of states to regulate insurance has permitted several state insurance commissioners to contest premium hikes, a politically popular action. Thus, the health insurance industry, which in the past was viewed as a mailing address, simply receiving and transmitting funds, is now "caught in the middle."

As a major purchaser of health services, it is for the first time facing strong incentives to intervene in the structure and organization of the health care delivery system in an effort to limit expenditure increases. These efforts to induce efficiency may prove important, since the power in the market for health services that the private third parties and large employers who finance many of the costs of health insurance possess is stronger than that of the individual citizen acting alone.

Government agencies that act as third-party purchasers of health care are also finding it difficult to accept unlimited expenditure growth. Health programs financed out of general revenues absorb government revenues that might be used to meet other wants, for example, improved education, housing, and transportation, or that could make possible tax reduction. Even when health expenditures are financed from trust funds and special taxes and, presumably, therefore do not compete with other expenditure programs, the need to increase these taxes does not cause joy and elation in legislative forums.

It is important to note that while large third-party payers for care do have a bargaining power that individual users of private care lack, governments have additional powers. In addition to the fact that they, too, may be able to bargain effectively, they have the power to enact new legislation and adopt and implement regulatory mechanisms. We do not argue that the actions of government can be artibrary and are not, themselves, part of a bargaining and negotiating process. We do suggest, however, that the powers of government are greater than that of third parties because, in political bargaining, the terms of the negotiation process are rather different.

Enhancing the probability that large purchasers of care will be able to act effectively to restrain expenditure growth is a change in public attitude toward the health sector. While it is obviously

difficult to be certain about one's reading of social change and social attitudes, there does appear to be a growing skepticism toward experts (even health experts), a growing irritation with continually increasing health prices and expenditures, and a growing questioning as to whether they are necessary. Although individual hospitals are still able to rally community support for the maintenance of ongoing programs, and on occasion, even for the expansion of services, questions are being raised at a more general level (for example in public planning forums) about the uses to which various expensive equipment and facilities have been put and about the need for further hospital expansion. There is a growing suspicion that the health care system allocates its resources in less than the most effective manner and, further, that the economic arrangements within it predispose it to do so. Thus, the climate of opinion within which the health sector functions has changed. The view that the health system must be regulated and controlled and that some of its economic arrangements must be altered is taking hold.

We do not imply that we expect the American population to turn away from medical care. Whatever the attitudes toward physicians, toward hospitals, and toward the health care system as a whole, it remains likely that, in general, Americans will continue to rely on and believe in medical intervention. We do expect, however, that in the context of cost-control considerations greater attention will be paid to the form of intervention, the quantity of resources needed, and the prices that prevail.

Mechanisms for Expenditure Restraint

Earlier, we discussed the two major sources of health expenditure growth that influenced labor demand: those increases due to growth in the total amount of services provided and those increases due to increasing complexity of services and inputs per unit output. It is now useful to examine the various devices that may be implemented to control future utilization expansion and unit-cost increases, focusing our discussion on the impact of these controls on labor demand.

Utilization Controls: Increasingly, government and other third parties (particularly Blue Cross) are attempting to impose direct controls to limit the quantity of services available and provided. Given that the degree of efficacy of various procedures is questioned and that the utilization, particularly of expensive facilities and high technology, is viewed with skepticism, it is not surprising that we find an increased emphasis on utilization review and control. Blue Cross and Medicaid monitor lengths of stay and have the power to deny claims retroactively if it is determined that unnecessary services were provided. Professional standards review organizations, supported by many legislators because of their potential cost-control implications, are being developed to monitor quantity and type of hospital services provided; in time, they may monitor physicians' services as well. Although these review mechanisms began as information systems, they may evolve into utilization constraints, assuring that care is provided in the appropriate amount and in the appropriate setting. In some states, teams review Medicaid patients in nursing homes to assure that they are placed in appropriate level facilities. Prior authorization of elective procedures, second opinions in regard to the need for surgical intervention, preadmission review procedures, all are indications that various parties believe that, at the present time, the key decisionmakers--the physicians--may be making decisions that lead to overutilization and increased expense.

We do not suggest that the new type of monitoring procedures necessarily work efficiently and effectively. We do suggest, however, that they have not been developed frivolously and that they do not represent a passing phase. It is far more likely, therefore, that to the degree that they fail to work they will be improved upon rather than repealed. The philosophy that brought them into being is likely to remain, and third parties will continue to monitor the utilization of medical services. Furthermore, the very presence of monitoring devices is likely to have its impact on physicians' decisions and on the type and quantity of services provided.

A second type of utilization control is carried out through limitations on the capacity of the health sector. To restrain consumption through the limitation of capacity would be most unwise in a market where such limits, in the face of rising demand, would be expected to lead to inflation. Indeed, a decade ago evidence of inflation in the health sector, on occasion, led policymakers who failed to recognize the special characteristics of the health care market to conclude that an expansion in the supply of resources was necessary. Since then we have increased our understanding of this market and have concluded that the price system does not work effectively in the health sector. There is ample evidence that the sheer increased availability of resources, such as hospital beds or surgeons, acts to increase utilization and thus total expenditures. (It has even been argued that increased availability of physicians and hospital beds actually encourages price increases as providers work to achieve target incomes or face high costs associated with underutilized capacity.) It is now recognized that expansion of the capacity of hospitals and nursing homes essentially commits the public to a higher level of expenditures. Measures are, therefore, being developed to limit facility expansion. A number of states have enacted certificate-of-need legislation under which capital investment by hospitals and other health facilities cannot be undertaken without prior approval by a regulatory agency, commission, or board. In addition, new federal health-planning legislation has been enacted designed to help provide the individual states with the infrastructure necessary to reach more enlightened decisions. These various attempts are all designed to limit the increase in the supply of new hospital and nursing home beds and new equipment, and thus to affect utilization and to reduce the pressures for future growth in annual health care expenditures.

It is not our argument that everything will be well planned, but rather that over time the impact of planning activities will be increasingly evident. It is also our argument that the thrust toward planning in a nongrowth framework (for example, toward restraining growth in the number of hospital beds) is new and may represent the end of the expansionary phase for the health sector.

Price Controls: In addition to the constraints that insurance companies and government are attempting to develop on the quantity of services provided, attempts are also under way to restrain expenditures through restraint of unit cost (price) increases. These efforts will have an impact on the ease with which health providers, particularly institutions, will be able to pass on the costs of increased resources input into the production process and may even provide powerful incentives for providers actually to cut inputs per unit output. Since labor costs account for a high percentage of the cost of producing health services, special attention is likely to be directed toward labor utilization as hospitals and other institutions attempt to achieve economies.

By the fall of 1975, 11 states had enacted legislation providing for the review of hospital rates, and five additional states were considering such legislation. This number, however, surely understates the impact on hospitals throughout the country of new efforts to set rates. Hospitals in those states in which legislation has not yet been enacted or is not yet under consideration are well aware that they must demonstrate significant efforts and successes at cost control if they are to decrease the probability of the enactment of legislation. In addition to rate-setting efforts, a variety of experiments with prospective and incentive-reimbursement systems are under way. All these are being developed as a consequence of the recognition that previous payment mechanisms did little to restrain price increases and provided little stimulus or incentive to the search for efficiency and economy. While in the past hospital managers may have equated personnel-expansion decisions with improvements in the quality of care, their perspective has changed with increasingly tight review of hospital budgets and rates and the increasing public concern and dissatisfaction with rising costs. It is likely that a review of the agendas around which hospital boards of trustees meet would provide evidence that the nature of the discussion has shifted in the past decade from problems of expansion to problems of cost constraints.

Some of the change of impetus and perspective has also derived from the hospital cost-containment efforts

under the Economic Stabilization Program, efforts and experiences that will have reverberations throughout the health sector for years to come. Hospitals were treated differently, especially under Phases III and IV, from other producers in the economy in recognition of the special difficulties of containing costs under cost-pass-through reimbursement schemes. Toward the end of Phase IV when decontrol was imminent, strong pressures surfaced for continuing controls on the health care sector. Although this did not occur, hospital administrators and other providers accepted this as an omen: effective voluntary cost restraint had become the only hope for preserving a semblance of hospital budgetary autonomy in the long run. (See Phillips, 1974.)

The impact on future labor demands of the restraint of per unit costs is expected to be significant. Under Phase III, for example, the recognition that there was little built-in incentive for productivity increases led to direct limits on the growth of total personnel budgets as well as on wages. Contrary to previous practice, employment expansion could occur only with expansion of the quantity of service provided, and the increase in service intensity was (at least in theory) restrained. Even in the absence of direct payroll limitation, when hospital administrators consider how to cut costs, they are aware that hospital labor costs, though declining as a proportion of total expenditures, still account for over one-half of total costs. The sheer magnitude of this percentage focuses attention on employment decisions. The hospital management literature increasingly stresses substitution of capital for labor and the use of management engineering and other techniques to produce the same output with fewer workers. (See especially Shoos and Krizelman, 1975.) It is clear that under unit cost restraint, providers have incentives to increase the efficiency of health service production and especially to improve their use of labor inputs.

It has often been suggested that an effective way of trying to judge what the future might look like would be to look at New York City today. The simplicity of the

suggestion does not mean that it is entirely without substance. If we would speculate concerning the impact that cost-control mechanisms might have on employment, it is relevant to note the experiences that the New York City hospital sector has faced during a year in which fiscal constraints have been severe. These constraints, via the actions of third parties, have had a very substantial impact on personnel policies, on wages and working conditions, and on the labor market for hospital employees. Employees have been frustrated in attempts to bargain about these issues, since government and private third parties, who set the constraints, do not sit at the bargaining table. It will be important to examine the evolution of the structure of the bargaining process under these special circumstances. It is likely that similar constraints will appear in other parts of the country. The attempts to set rates and to constrain costs will not always be successful. On occasion, they may penalize the very institutions that have been most efficient and may retard the diffusion of advances that have merit. Rate setting and cost control, therefore, will not come easily or without controversy. Nevertheless, and for substantially the same reasons that we will witness an increased emphasis on resource control, we can anticipate that through voluntary and governmental action, hospital expenditures will be subject to more critical review and more effective control than was the case in the past.

Other methods that attempt to restrain health expenditures are emerging and finding their way into proposals for national health care policy. There is evidence, for example, that prepaid group practices appear to constrain total expenditures by reducing the hospitalization of patients and perhaps by increasing incentives to provide care in least cost appropriate modalities. Should this form of health maintenance organization grow and spread, this method of paying for and providing care would have substantial implications for the health sector labor force.

We should mention in passing that one group of workers is likely to benefit from increased efforts to restrain health expenditures: the health managers.

As can be seen in Table 3, employment of these workers in the health industry increased very rapidly during the 1960s, and the advent of control mechanisms will stimulate this growth even further. First, as health care providers work to increase technical and economic efficiency, they will find management talent increasingly valuable. Secondly, expansion of planning and regulatory activities in the health care sector, whether carried out by government agencies or private insurance companies, will require workers with special expertise in this area. Although much of this demand growth is still in the future, schools of management, public health, and public administration are already expanding their health management programs to meet projected demand. This increase in the employment of health managers, however, will do little to compensate for declining growth of demand for less skilled workers.

Finally, we should note that under the pressure of fiscal constraints, institutions with low occupancies or with especially high costs may find it necessary to close their doors. In areas where there is "slack" in the hospital sector, such closings may increase the efficiency of the hospital industry; at the same time, they will of course reduce employment.

The slower growth of health expenditures that we predict as a result of these expenditures restraint measures will inevitably slow the rate of growth of health sector employment, particularly hospital employment. The quantity of services provided will not grow as rapidly as in the past, and the growth of service intensity, the amount of inputs per unit of service, will also be restrained. The direction of technological change may be somewhat altered by these trends toward expenditure restraint. There will be incentives for the development of resource-saving as opposed to resource-using techniques in health care. Equally important, the diffusion of technological change will probably be affected by determination of need regulation on equipment and service expansion designed to control expenditures and increase efficiency. Although the growing number of physicians practicing

in community hospitals will continue to press these instituions to provide the most technologically advanced services, we believe that regulation acting to reduce the redundancy of service capacity will prove more important in the long run. Eventually we expect the most complex resource-using services to be available mainly in referral hospitals. An example of these competing pressures is found in the current controversy over provision of capacity for computerized axial tomography (the so-called CAT scanner). (See Phillips and Lille, 1976.) Because of a slowing of the growth of the quantity of output and of the amount of labor required per unit output, labor demand growth will be significantly less rapid.

Sources of Potential Increases in Health Labor Demand

There are, of course, countervailing forces working to continue past trends in health sector growth. These forces cannot be ignored. They include population growth, demographic shifts (particularly in the age of the population), increasing incomes, and increases in insurance coverage. We can also expect an increasingly affluent society to work to meet more of the health needs of the population, causing both an increase and a shift in composition of public health expenditures. Finally, a national health insurance program may be expected to expand the demands placed upon the health sector. All of these expansionary forces for health expenditure growth would fuel expansion of health labor demand. We would argue, however, that these forces for health employment growth will act within a new environment: growth of the health sector in the future will be carefully controlled, so that massive increases in health sector expenditures or employment will not be forthcoming from these sources.

How important will the forces for health expenditure growth prove? First, our population is still growing and, even with a reduced birthrate, will continue to grow for many years, requiring more health services even if services per capita remain constant.

In addition, the age composition of the population is shifting so that the proportion of older people is growing steadily, also implying increases in health care demand. Even if per capita expenditures for each age group remained constant, total expenditures would rise for these two reasons: shifts in age distribution alone would raise personal health expenditures in 1990 by 5 percent over fiscal 1975, while population growth would increase personal health care expenditures by 14 percent.2/ Economic growth, temporarily slowed in the past few years, is almost certain to increase real disposable personal income over the long run. As a consequence, health expenditures per capita are likely to grow. Looking only at the influence on the demand for health care of population, demographic composition, and income, we predict growing demand for health care and thus for health manpower.

Past growth in health care demand has been partly due to growth in insurance coverage. In some areas, however, further growth is limited. With such a high proportion of the population holding hospitalization insurance, for instance, there is little room for growth in the number of people covered. (See Table 10.) There is room for growth of the amount of coverage each person holds, and we expect deepening of hospital insurance benefits to encourage hospital utilization. There is also room for extension of coverage to currently uncovered services. Although about 80 percent of the population holds some kind of private insurance coverage for acute hospitalization, only 59 percent is covered for outpatient physician visits, and only 16 percent for any sort of dental benefits.

2/ Population projection from U.S. Department of Commerce, 1975. Per capita expenditure by age group from U.S. Department of Health, Education, and Welfare, 1976, Research and Statistics Note No. 11.

Table 10. PERCENTAGE OF CIVILIAN POPULATION WITH PRIVATE HEALTH INSURANCE COVERAGE, 1962-1974

Year	Population with Coverage				
	Hospital Care	Surgical Care	X-ray and Laboratory Examination	Dental Care	Nursing Home Care
1962	69.8	64.6	35.0	0.5	3.0
1963	71.0	66.0	--	--	--
1964	71.4	66.6	--	--	--
1965	71.9	67.7	41.2	1.6	5.1
1966	73.2	68.9	48.0	2.2	9.2
1967	74.4	70.6	47.0	2.4	9.2
1968	76.4	72.2	49.2	2.9	9.6
1969	77.2	73.6	62.2	4.2	14.0
1970	78.2	74.6	70.2	6.0	16.0
1971	78.8	74.5	70.7	7.5	18.8
1972	79.2	74.6	72.1	8.6	21.9
1973	80.0	75.9	73.1	10.4	33.1
1974	81.6	77.2	72.7	15.8	33.2

SOURCE: Mueller and Piro, 1976.

It has been argued that fragmented coverage encourages inappropriate utilization: given a choice, the physician of the patient covered only for inpatient services will elect hospitalization over outpatient care because there is a lower out-of-pocket cost associated with the covered service. This argument might imply that broadening coverage to include substitutes for hospital care (for example, outpatient physician services, nursing home care, and home nursing visits) would shift utilization away from costly modes of care toward the most appropriate, least cost mix. This might reduce health manpower demand and would certainly shift its composition away from hospital workers and toward other types of employment. If the public, however, individually and through employee plans, chooses broader coverage, this could well lead to an increased utilization of the newly covered services, without any significant shift away from the more expensive modes of treatment. This appears to have occurred in the Medicare effort to provide coverage for skilled nursing care, partly in the hope of moving patients out of acute hospitals into less intensive care facilities. The very rapid growth of utilization of newly covered services swamped any cost-saving substitution effect. Furthermore, if many types of services are covered, there is little individual incentive for the selection of the least costly mode of care, even if it is believed to be as effective as the most costly treatment mode. More expensive care is generally perceived as better and is likely to be chosen if out-of-pocket price differences are small.

An additional source of increased demand for health care would derive from the recognition of unmet needs. In the past, such recognition has led to new payment programs (for example, skilled nursing home care for the elderly and hemodialysis and other services for patients with chronic kidney disease). These new programs, in turn, have led to an increased demand for health manpower. They may continue to do so in the future. Thus, future programs might attempt to meet the need for home care for the elderly and chronically ill, rehabilitation for cancer patients after surgery,

nutrition education, and dental care. Such programs, along with the growth of insurance coverage, would help to increase the number of health workers employed. They also would change the mix of skills required and call for new types of personnel.

However, if all these trends occur in a context of increasing utilization controls and price restraint, we can expect their impact on expenditures and thus on labor demand to be restrained. These forces, thus, cannot be counted upon to continue the growth of health employment along the steep trend lines of the past.

A similar argument applies to the most massive potential change ahead for the health system: the introduction of national health insurance. To speculate on the timing and provisions of a national health insurance program is certainly difficult. The political prospects for such legislation are far from clear, and no one can predict what form the legislation will take, whom it will cover, what the benefit package will contain, and what regulations and controls will be established. However, while a general entitlement program would surely increase demand for health care, it is very unlikely that any national health insurance program could or would be enacted without stringent controls on the delivery system. An open-ended national health insurance program that would provide funding for significant increases in supply of resources is not likely to command executive and legislative support. It has become too clear that increasing the entitlement to care without controls on utilization and unit costs simply encourages inflation, redistributes utilization, and increases production by providers of the types of services they find most rewarding.

It is thus more probable that a health insurance system will be enacted, or will evolve, with centralized resource allocation, effectively restraining the growth of the health sector, than that we would have an open-ended system with uncontrolled, rapid rates of growth. A system of effective controls is most likely if the nation adopts a program that phases in national

health insurance over time. In this case, the impact of increased entitlement on the health system at any one time would not be as great, and the potential for development of strong administrative mechanisms is increased. Such a phasing approach appears to command political support. For this, and for the reasons already stated, we believe that national health insurance will necessarily be accompanied by payment and reimbursement mechanisms, regulatory and budgeting devices that attempt to deal with the problem of increasing health care expenditures. If controls are actively directly toward more appropriate and/or lower cost modes of care, health labor demand composition will change, away from hospital workers and toward workers providing outpatient services, nursing home services, home care services, and the like. While it is predictable that the heavy influx of health workers during the 1960s will need replacement at some point in the future, since it is unlikely that the real output of the health sector will be permitted to decline, these replacement needs will not arise for some considerable time to come. All this implies that health labor demand will not accelerate markedly because of enactment of a national health insurance program and that the health sector cannot be counted on to provide a continually growing number of jobs.

Implications for Public Policy

A consequence of slackening growth for health labor demand will be a conflict between health policy goals and manpower policy goals. It is important that this conflict be put into sharp focus and brought to the attention of manpower policymakers. Workers with fewer labor market advantages are likely to be hardest hit by the predicted slowdown in health sector employment growth, thus adding further obstacles to the achievement of full employment and equitable distribution of jobs in the economy. Once this is recognized, pressures may build to subsidize health expenditure expansion, even though this conflicts with health policy goals. Such pressures exist in support of continued military expenditures: often it is not the value of the services that is emphasized when military spending is expanded or contracted, but the value of the jobs created or lost. We may hear similar

arguments in regard to health expenditures. It is relevant to note that when the closing of certain hospitals was discussed during New York City's fiscal crisis, members of the black community organized to oppose such action. It is reported that their cry was not "In closing the hospitals you will take away our health care"; rather, the cry was "In closing the hospitals you will take away our jobs."

Any resolution of this conflict between fiscal constraints on the health sector and the desire for expanded health sector jobs requires coordination between health and labor policies, in order that, if the health sector is encouraged to create jobs directed toward meeting manpower goals, these jobs be added in a meaningful way. Unfortunately, typical job-creation programs too often press for more jobs of the type that currently exist. In the health sector this would mean more hospital jobs. If, in an effort to provide employment, we encourage expansion of hospitals, public policy for jobs will indeed work against health policy goals. Public employment programs in the health sector must, therefore, be coordinated with the longer-run health policy goals of filling unmet needs while restraining overutilization and using health labor more efficiently and effectively to produce health services. There is little doubt that major efforts could be undertaken in the field of chronic and long-term care, in the area of home health services, day hospitals, and social-support programs. This is especially the case given the projected growth in the number and proportion of aged in the population. It will, therefore, be necessary to develop an active health services policy, one that stimulates the development of a new set of services and that is likely to be far more effective in meeting needs that would be true of a simple expansion of that which already exists. It will, therefore, also be necessary for manpower policymakers to be aware of these possible changes, be responsive to them, indeed, even encourage their development. Responsible manpower policy must ask, "What kind of jobs?" and those who

develop manpower programs, therefore, must participate in a continuing dialogue with their health policy counterparts. The society will be poorly served if the fiscal authorities, the health sector decisionmakers, and those with employment and training responsibilities spend their time in speaking to their own constituencies instead of to each other.

III. MANPOWER POLICY AND THE STRUCTURE OF HEALTH OCCUPATIONS

Introduction

Thus far we have discussed some of the characteristics of emerging health policies and have indicated how these policies, often designed to slow the rate of growth of health expenditures, will necessarily have a substantial impact on the growth in demand for health labor, on the number of jobs in the health industry, and on employment opportunities within it. Public policy also helps shape the structure of health occupations and of health labor markets. While the discussion that follows is speculative and highly tentative, it is important that we explore some of the manpower implications inherent in the possible trends and developments in health labor markets. From our discussion will emerge several hypotheses concerning future trends and directions that we feel need further, careful investigation in order to better monitor, understand, and project the manpower impact of public policy for health. From our discussion, we believe, will also emerge some issues that manpower policymakers will have to address if a more effectively functioning labor market is to be developed.

A large number of health occupations and a significant number of hospital and other health workers have traditionally received low pay and have experienced relatively high turnover. These characteristics are well known. An additional characteristic of many health jobs is that they are highly "credential bound," that is, education and training acquired outside the work environment is necessary to fill certain jobs, and each job has its own set of educational and certification requirements. While hospital pay and benefits are rising, the fragmentation of health jobs and the "balkanization" of health labor markets may, regrettably, also be increasing. Public-policy decisions are in part responsible for both phenomena: the improvement of pay, benefits, and working conditions and the inflexibility of health occupational definitions. Public policy must recognize and deal with the labor market implications of these developments.

Improving Jobs: Implications for Labor Force Composition

Health sector employment is at long last taking on many attributes and characteristics of the mainstream of American employment. The Fair Labor Standards Act (regulating such things as minimum wage and overtime pay) was extended to hospital workers in 1967; state

unemployment insurance and workmen's compensation programs are finally providing coverage for many workers in nonprofit health institutions; and in 1971, amendments were passed to the National Labor Relations Act giving hospital workers the right (with certain restrictions) to organize and bargain collectively.

The impact of unions, either through collective-bargaining agreements or through the effect of the threat of unionization on hospital management, is growing in significance. Coverage under collective-bargaining agreements is by no means the rule for hospital workers but is becoming more and more widespread, especially for registered nurses and for state and local government hospital employees (see Bureau of Labor Statistics, 1974). Typically, unions work to increase pay and benefits and to regularize workers' rights to jobs. At the same time, increases in wages and benefits for the health work force have been encouraged and permitted by the growth in demand for health labor and the ability of hospitals and other institutional health care providers to pass payroll costs through third-party payers. The impact of these forces has been reflected both in the dramatic growth in employment and in the change in rates of pay and benefits. Thus, hospital and other health jobs are now more attractive relative to jobs elsewhere in the economy than was the case, say, 20 years ago.

The increasing relative attractiveness of hospital jobs in particular is indicated by their increasing earnings relative to other jobs in the economy. Table 11 shows hospital average earnings relative to nonhospital earnings for five occupations in 18 geographic areas at three points in time. These area and occupation-specific figures show clearly that, in most cases, hospital jobs are becoming more rewarding than they have been in the past. Although direct wage comparison with nonhealth jobs is not possible for occupations mainly found in the health sector, earnings in these occupations have also increased significantly faster than earnings in the economy as a whole. Between 1969 and 1972, average hourly earnings of nonsupervisory workers on private payrolls rose 21.7 percent (U.S. Department of Labor and the U.S. Department of Health, Education, and Welfare, 1976, Table C-3). During a similar period, earnings for hospital workers in occupations employed mainly in the health sector rose between 23.9 percent (registered nurses) and 37.9 percent (psychiatric aides) in the median city of the Bureau of

Table 11. AVERAGE STRAIGHT-TIME WEEKLY (OR HOURLY) EARNININGS FOR SELECTED OCCUPATIONS IN NONGOVERNMENT HOSPITALS AS A PERCENTAGE OF AVERAGES IN THE BLS AREA WAGE SURVEYS, 18 AREAS
(AVERAGES IN AREA WAGE SURVEYS = 100)

Area	Payroll Clerks			Switchboard Operators-Receptionists			Janitors			Maintenance Electricians			Stationary Engineers		
	1960	1966	1972	1960	1966	1972	1960	1966	1972	1960	1966	1972	1960	1966	1972
Atlanta	-	91	102	-	-	-	55	72	107	-	-	77		117	77
Baltimore	81	82	-	69	-	100	60	77	126	70	81	87	77	76	97
Boston	94	108	110	-	87	102	73	85	102	79	85	98	74	80	88
Buffalo	84	72	-	79	82	-	64	78	85	79	91	87	80	86	89
Chicago	86	101	102	101	82	102	64	70	95	89	96	99	90	89	88
Dallas	91	91	93	-	72	81	66	82	98	72	75	87	77	98	89
Denver	-	84	91	-	86	90	-	68	92	-	-	90	-	88	95
Detroit	-	78	95	-	72	99	-	64	77	-	82	92	-	87	87
Los Angeles	86	89	94	86	85	95	73	73	94	95	82	87	82	84	85
Memphis	-	82	83	-	70	-	48	73	102	-	-	79	89	100	113
Minneapolis-St. Paul	101	96	103	91	-	-	81	86	90	123	100	-	96	97	97
New York	84	100	107	76	82	107	69	84	105	79	84	98	83	99	106
Philadelphia	84	88	102	78	78	108	56	68	92	68	77	86	74	83	88
Portland	87	102	101	88	94	98	78	83	89	-	-	-	98	99	107
St. Louis	-	92	90	-	63	76	-	70	78	-	60	80	-	72	88
San Francisco	95	99	98	92	87	-	74	80	94	85	-	-	86	93	99
Seattle	-	95	92	-	90	87	-	75	80	-	-	92	-	94	92
Washington	-	97	-	-	-	90	-	90	123	-	95	85	-	84	109

NOTE: Dashes indicate no data reported or data that do not meet publication criteria.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, 1974.

Labor Statistics Industry Wage Survey of Hospitals. The increases for unskilled workers in hospital jobs, kitchen helpers, maids, and porters, were especially rapid, with median increases between 30 and 36 percent over the three-year period (see Table 12). Increases in the average payroll per full time equivalent hospital employee show similar rates of growth, though it should be remembered that this statistic does not allow for changing occupational composition of hospital employment. In the five years from 1969 to 1974, payroll per employee rose 43.4 percent, an annual rate of 7.5 percent, while average earnings in the economy rose 31.1 percent, an average annual rate of 5.6 percent. (American Hospital Association, 1975; Bureau of Labor Statistics, 1976.)

An improvement in wages and employment conditions generally is likely to be associated with changes in the composition of labor supply and of employment. The health industry will not be an exception to this rule. The relative increase in the attractiveness of health jobs can be expected to draw into the health labor market workers who in the past found other labor markets more attractive and had advantages in competing for the better jobs in those markets. For blacks and for women, the health sector offered employment opportunities that were far more favorable than the opportunities they found in the rest of the economy (in a society with long traditions of discrimination, competitive labor market forces were weak). As health jobs become relatively more attractive and as jobs in the rest of the economy open up to more blacks and women, workers--particularly white men--who had, and who even today continue to have, special advantages in the labor market may be expected to become increasingly interested in competing for health positions.

At the same time, changes in the regulations governing employment, changes that imply higher fixed cost to employers and consequently make turnover ever more expensive, will lead hospitals to become more concerned about turnover costs than has been true in the past. Deliberate action to reduce turnover can be expected to be of advantage to particular groups in the labor market, again especially men. To some degree, after all, institutions use perceptions of the past to guide behavior in the present. It is not unlikely that hospitals will attempt to favor the employment of men over women and minorities since, in the past, the latter groups were perceived as having a reputation for high turnover.

Table 12. MEDIAN-CITY INCREASE IN AVERAGE EARNINGS BETWEEN MARCH 1969 AND AUGUST 1972, SELECTED OCCUPATIONS

Occupation	Percent Increase
Supervisors of nurses	27.0
Head nurses	24.8
General duty nurses	23.9
Dietitians	24.3
Medical technologists	24.3
Physical therapists	25.5
Radiologic technologists (x-ray)	26.3
Clerks, payroll	23.0
General stenographers	27.8
Senior stenographers	29.0
Switchboard operators	28.7
Licensed practical nurses	27.9
Nursing aides	32.4
Psychiatric aides	37.9
Kitchen helpers	35.8
Maids	35.1
Porters	30.2

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, 1974.

The fact that past turnover rates may well have been associated with low pay and poor working conditions, the very factors that have been changing, may be overlooked. Thus it is possible that at the very time that wages and working conditions are improving, health care institutions may begin to favor those groups for whom other job opportunities in the economy have been most extensive and may begin to discriminate against their traditional employees (and individuals with similar demographic characteristics).

In the past, health institutions, as we have indicated, have had a high proportion of minority group members and women in their employed ranks. While it is the case that these groups tended to be overrepresented in jobs at the bottom of the educational, skill, and income ladder, the fact that the jobs were there was important. The point we make is that these jobs are improving and that, consequently, a new supply of labor may become available for them. Were that to occur, it would become imperative that government agencies concerned with equal employment opportunities pay close attention to this segment of the job market lest with the availability of new supply those who previously held such jobs find themselves subject to discriminatory behavior. The phenomenon, after all, that improvements in wages and working conditions may be accompanied by discrimination against blacks and women and with favored treatment for men is not unknown. Public policy must take account of the danger of that phenomenon's appearing within the health sector.

The Need for Occupational Flexibility

Another characteristic of the better jobs in the economy is that incumbents have the potential for promotion and upgrading through on-the-job experience and training. Health sector jobs, however, seldom have promotion possibilities because of the rigid manner in which health occupations are defined, often by self-regulating guilds. For example, in the hospital nursing department, even very experienced and skilled nurse aides cannot advance to licensed practical nurse (LPN) positions without at least a year of specific training; LPNs cannot move into staff nurse jobs without two or four years of college training (for associate or baccalaureate degrees) or three years at a diploma school; and promotion into the upper level of

registered nursing positions in the hospital increasingly required baccalaureate or even master's level educational credentials. The structure of health jobs and the credentials required to enter particular occupations have acted to reduce the flexibility of the health labor force and advancement opportunities for many workers.

The pattern of guild control over occupational definitions is heavily entrenched. It has been institutionalized by legislation, judicial precedent, and health industry practice. Training tends to be specific to narrowly defined occupations and to be focused on the acquisition of formal educational credentials and certification. Various forces are present that continue to support fragmented occupational definitions and that even encourage a further fragmentation of health jobs.

One interpretation of the job-specific nature of health manpower training in the past is that it was an understandable response to the job preparation problems of workers expecting only a few years of labor force participation. The present value of future expected earnings less training costs is often maximized by a short training course providing credentials for entry into a specific job rather than by entry at the bottom of an on-the-job training and upgrading ladder. It has also generally been the case that training programs specific to particular jobs are preferred over more flexible training that can be transferred among jobs, since flexible training is likely to be more expensive and since the benefits to a worker expecting to stay in the labor market only a few years are not likely to be commensurate with the additional cost of such training. Finally, we must recognize the role played by employers who--because of the expectation that workers will leave the job after several years--are unwilling to place new entrants into on-the-job training situations. The response to all these forces is the development of a "credential" solution to the labor market sorting problem.

The training pattern described is clearly associated with the paraprofessional woman in the health labor force. One to four years of formal education beyond high school have been required to prepare and certify workers for specific health job slots, but the credentials acquired have not been transferable even to closely

related jobs (dental assistant to hygienist, licensed practical nurse to registered nurse, certified laboratory assistant to medical technologist) even with incremental formal schooling, let alone on-the-job experience. In general, workers have been required to return to school and enter new training programs at the beginning. They have not had the opportunity to build on previously acquired skills or to substitute experience for course work and performance ability for certificates and credentials. Such a structure becomes inefficient for employees and employers if workers remain in the labor force for considerable periods of time, since, in that case, neither party benefits from acquired on-the-job experience or from opportunities for further learning on the job. As the cost of turnover to employers rises and as health providers become more cost conscious, as women increase their expected lifetime labor force participation, and as health jobs become relatively more desirable and attract men, one would expect these patterns to change.

Unions have attempted to develop upgrading ladders for lower-level hospital workers. In so doing, they have acted to reverse decades of health guild action. Furthermore, unionization may in indirect ways represent yet another force for change. With unionization comes an increase in the central control that hospital directors must exercise over individual departments. Although directors may view the union as infringing on management prerogatives, in many cases the union increases the responsibility of central management relative to clinical deparmental chiefs. The decline in the balkanization of the hospital and the need to develop central personnel policies in and of itself can contribute to a more general perspective toward the hospital labor market and to a consequent adoption of new policies to discourage and overcome existing fragmentation of occupations.

However, in spite of these slowly emerging trends and the initial signs of union activity to improve the upgrading patterns of jobs in health institutions, there still remains a strong impetus for new types of workers to attempt to acquire protection for their jobs in a manner similar to that found among the long-established health occupations. The forces that induce them to do so should not be underestimated. Many new jobs, after all,

emerge through technological changes, and quite often these changes expand the range of tasks that must be performed. Thus, for example, though many laboratory procedures have been automated, the number of different tests performed and the workers necessary to perform them grow year by year. Similarly, the advent of the computer rather than replacing a number of clerks has caused hospital recordkeeping systems to evolve in a manner requiring additional specialized personnel. Often we find that instead of broadening the role of more generally trained workers in the various areas that undergo change and that expand, new guild organizations have developed that attempt to carve out job definitions for the new tasks. Alternatively, established guilds have created hierarchies within each cluster relegating lower-level jobs to workers with fewer credentials and actively attempting to regulate entry to each job.

Protection of their scope of work by incumbents holding new health jobs can hardly be considered an irrational response, particularly in settings with a tradition in which various long-established occupations have effectively defined and protected their particular turf. Furthermore, the various occupations have learned their lesson well from physicians and dentists. These professionals, after all, provide the most striking example of guild self-regulation, always justified by the claim of "the achievement of high standards of quality." Since physicians and dentists are found at the pinnacle of the health manpower employment structure, it is hardly surprising that others use them and their behavior as models. Of course, it is true that the cementing into place of each further restrictive occupational definition and credentialing mechanism reduces the potential for upward mobility by its impact on the entire hierarchical and labor market structure. Nevertheless, given the credentialing tradition and the absence of customary upward mobility, one expects that those with a newly acquired credential would act to prevent others below them from moving into their occupation. The reward for making a "social contribution" by giving up their own restrictive definitions is small, since others above them in the hierarchy continue to prevent upward mobility by retaining historical occupational definitions.

In many ways, public policy and recent developments have in fact enhanced the ability of guilds to define and protect their occupations. Malpractice suits against health providers are, as we are all aware, becoming more common, and physicians, hospitals, and other providers can be sued for the negligence of their employees. Under circumstances where legislation (or tradition) assigns certain tasks to certain workers who are specifically prepared by their training to perform them, errors by these employees do not necessarily imply employer negligence. Conversely, however, were a hospital to allow a worker to perform tasks for which the worker is not formally certified, even though on-the-job or other experience has enabled the worker to achieve full competence, the hospital would be in a vulnerable position and might easily be found negligent for any human error in the performance of the worker's duties. Under such circumstances, it is not surprising that institutions behave in traditional, conservative ways. Nor is this alone a matter of individual institutional behavior. The Joint Commission on Hospital Accreditation and other similar groups rely heavily on employee credentials as an indication of institutional quality, and state licensing and certification regulations for health institutions often specify licenses and training for personnel.

In general, then, as we find an increasing concern with the quality of health care but no remarkable increase in our understanding of how health care is produced most effectively, we are likely to find that the concern for quality is expressed in a traditional manner: quality of inputs into production, including the training of personnel, will be taken as a major indicator of health care quality. While economists and others may deplore the use of such proxy measures, operating institutions are likely to argue that alternative measures are unavailable. Thus, even though new occupations have been and will continue to be created, we cannot be at all certain that this will be accompanied by the development of occupational job ladders for present and future health employees.

An aggressive public policy is required if we are to overcome the potential ossification of the structure of health occupations. The need for such a policy is perhaps even greater today than in the past. During the decade of

the 1960s, after all, health sector employment grew substantially. The so-called crisis in health care and the pressures on the health system helped induce some "sub rosa" flexibility. Institutions needed workers and had to make adjustments. If, however, hospital employment will grow less rapidly in the future, these pressures will be absent. While it can be argued that fiscal restraints will provide significant incentives to search for efficiency and thus to create flexibility, it can surely be agreed that it will take some considerable time and painful adjustment to fully learn the rules of this new game and to translate them into action.

That this issue is not some fine theoretical point but raises the need for active public-policy intervention should be evident. In earlier years, for example, the margin for error in training programs both for new and old health occupations was large indeed. Institutions were growing and expanding and job opportunities were ever present. Those with responsibility for training (and those who were trained) could virtually assume that jobs would materialize. If, however, we do not increase flexibility in the future in the face of much slower growth in health employment, the potential for error in training institutions will necessarily be increased. Given the difficulty inherent in occupational forecasts in a field undergoing rapid technological change, we are likely to find unemployment and under-employment as individuals are trained for jobs that do not materialize. In our view it will be more productive to alleviate this situation by increasing occupational flexibility than by refining occupational forecasts. The former provides a more direct approach for public policy, particularly since an increase in flexibility and transferability of training, accompanied by a decrease in the rigidity of occupational and job definitions, increases employment opportunity and efficiency.

Thus, in our view, health care policy is likely to have very substantial impacts on employment in the health sector. Those with a manpower employment and training responsibility have always been aware that changes in the level of employment in a particular industry have important effects on the characteristics of occupations and of those who enter them. So it has been and so it shall be in health care employment. Thus, and not

surprisingly, traditional concerns in the manpower field--concerns about discrimination, about equal employment opportunity, about hiring practices, about job definitions, about credentialing, about training opportunities--will become ever more important in the health sector. In a sense, in past years those with a manpower responsibility were able to avoid becoming expert on the structure of the market for health employees. In the future, given that the industry is already very large but given that its rate of growth may slow singificantly, manpower experts (if they are to fulfill their responsibilities to help the labor market function effectively) will have to become more knowledgeable about and more concerned with some of the special characteristics that are found in the health service sector.

IV. HEALTH MANPOWER POLICY AND THE INDEPENDENT PROFESSIONAL

The Labor Market for Physicians

Manpower specialists have generally paid relatively little attention to that part of the labor force that has a high level of educational attainment, high income, and low unemployment rates. Occupations characterized by a work force with those attributes presented few problems except when supply or demand conditions changed greatly in a very short period of time. Thus, it is not surprising that analysis of the labor market for physicians has tended to be of interest to those whose primary concern has been the health sector rather than to those who have had general manpower and labor market interests. Yet, while understandable, this phenomenon is regrettable, for those with experience in analysis of the organization and the economics of the market for different kinds of labor could, we believe, contribute significantly to the enrichment of the discussion concerning physician demand and supply, the distribution of physicians, and the relationships between changes in health policy, in these variables, and in the demand for other health labor. Nor would a dialogue between those with an interest in and responsibility for health manpower matters and those with concerns for general manpower issues be a one-way street. It is our belief that a number of potentially significant changes in regard to the market for physicians may soon occur and that these changes will have an impact on the demand for other kinds of health workers, including workers that have traditionally been of interest to those with general labor market concerns. In the absence of a dialogue, these possible impacts may not come to the attention of manpower analysts.

Our discussion, therefore, now turns to the second class of health workers: the independent professionals, specifically physicians. A high proportion of these workers are self-employed, and those who are not (for example, federal employees and full-time members of hospital staffs or prepaid group practices) have the option for self-employment. The labor market situation that they face is therefore significantly different from that faced by other workers. It requires separate examination.

The special characteristics that health care possesses and the associated mechanisms that have been developed to finance it have had, as we have already indicated, a pervasive impact on the health care economy. Thus, they have also affected the supply of and the demand for physicians, dentists, and other independent health professionals. These workers, however, have their own special characteristics and economic arrangements, in turn creating important differences between the labor markets that they face and those of other health care workers. One important difference arises from the fact that physicians and dentists are most often paid on a fee-for-service basis. Their income is directly related to the rendering of particular services particular patients at particular points in time. This fact, when combined with the influence that physicians' recommendations regarding the type and quantity of services to be utilized have on consumer decisions, is of extreme importance in understanding the labor market within which physicians function.

The critically important point is the physician's apparent ability to influence the demand for his services. Many within the American economy attempt to influence demand; few, however, succeed in doing so in as effective a manner as is the case with independent health professionals. It is not surprising that physicians are able to succeed where others can only wish for success: consumers bring a high degree of concern, even fear, to the encounter with the physician; the physician sits as the supreme expert on matters of great consequence to the patient; the relationship between intervention and outcome is unclear; the price elasticity for physicians' services is low; and the impact of insurance in reducing the price barrier at the time that services are sought is great.

The potential for influencing the demand for services thus helps create a situation in which physicians are able to validate their own decisions, both in regard to specialty choice and location of practice. On the one hand, they do not distribute themselves in terms of job opportunities (since most of them are not employees); on the other hand, they do not distribute themselves in terms of clinical needs or demands of the population (since the latter are partially under their influence). They face neither a job market nor, as entrepreneurs, a normal competitive market.

To suggest that the physician can influence demand does not, of course, imply that there are no limits upon this power. Limits exist and are set by the availability of clinical facilities, referral patterns, utilization-review mechanisms, peer-review efforts, and so forth. Furthermore, the development of the consumers' movement suggests that professional dominance is weakening and that new and narrower limits may apply in the future. Nonetheless, there is ample evidence that in a number of locations and in a number of specialties, existing limits have not yet been reached.

Data in regard to these matters is relatively sparse, and much existing data can be interpreted in different ways. Without firm knowledge of what physicians do to improve health levels and in the absence of a richer understanding of the production function for health and of the efficacy of various interventions, we have few bench marks upon which to base analysis. Nevertheless, the analyses that have been done, the experience of other nations with substantially different ratios of physicians and specialists to population, and the experience of various prepaid group practices characterized by different physician incentive and reward structures, all suggest the key and dominant role that the American physician plays in organizing the market and in creating demand for his services. In such a situation it becomes most difficult to assess how many physicians a nation needs or should have and what the various benefits and costs might be in increasing or in reallocating the existing supply.

In the past, perhaps, this difficulty did not significantly affect public policy. The prevalent view seemed to be that the costs associated with having too few physicians far outweighed the costs (if any) of having too many. Furthermore, in the absence of an active manpower policy specifically designed to reallocate supply, apparent shortages in certain specialties and locations presumably could only be met by increasing the aggregate supply and hoping that part of that larger aggregate would find its way into the areas of shortage. Absent a richer understanding of the market power that physicians possessed, public policy looked to the competitive market to solve the allocation problems that were present. Such an approach to health manpower policy, in a sense, derived from the general argument that the fact that some groups in society and that various geographic locations had fewer physicians available for the population to be served than did others, offered direct evidence of a "shortage." This comparison

of physician-population ratios in order to define "shortage" reflected the difficulty of accepting the concept of "surplus," the suggestion that some areas and specialties had an oversupply of physicians. Unless there is agreement that surpluses are possible, the very existence of disparities in access to health care is interpreted as evidence of shortage. Unless the concept and possibility of surplus is understood, it becomes almost inevitable (given the thrust toward equity in health care distribution) to define the degree of "shortage" as the number of physicians required to bring underserved areas up to the level of those more richly endowed with physicians.

It is necessary that the critical role of the physician in influencing demand be understood, for it is this power that creates the possibility of surpluses. In most fields of endeavor, after all, analysis is not framed in terms of "needs," "surpluses," and "shortages." While individual economists may deplore the "overuse" of this or that commodity on the grounds that, in their judgment, the particular good or service in question yields relatively little benefit, they are loath to substitute their judgment for that of the sovereign or free consumer. In most areas of economic activity we rely on the market to perform an allocative function. We respect that market (or, in any case, are not quite certain that that which might be substituted for it would work as efficiently). In the market for most other goods and services, consumer choices are exercised, and some firms do in fact close their doors because there is an insufficient demand for the good they offer. In such cases, additional producers and additional distribution outlets would serve only to redistribute the production and the sale of a given quantity and volume of these goods and services.

Medical care, however, is different. In this field, perhaps as in no other, we do find references to "needs," to "surpluses," to "shortages," to "undersupply," and "oversupply." We have begun to understand that some communities can be "overdoctored" even while other communities face "shortages," that some communities with fewer physicians that others may not face a shortage at all, that there may be serious health costs as well as monetary costs associated with having too many physicians and too much medical care, and that normal market forces

do not determine the aggregate supply of physicians or their distribution in an appropriate manner (say, with reference to needs or demands). Health manpower policy, in part as a consequence of our increased understanding and in part as a consequence of the fact that previous policies that concentrated on aggregate supply have not been especially successful in solving distribution questions, is beginning to consider a new set of issues. Questions of aggregate supply are being replaced on the agenda of the policy maker by issues of distribution and allocation.

In considering possible changes in the distribution of physicians and in the structure of their labor market, it is useful to examine four potentially significant developments: new policies to redistribute physicians, increased emphasis on primary care, expansion of prepaid practice, and rapid growth in the number of physicians. The full impact of these four developments is not yet certain, but their potential significance is sufficiently great to justify their careful monitoring. This is especially the case because these changes are interrelated, and their effects on the physician labor market (and, as a consequence, on other health workers) are cumulative.

Policies to Redistribute Physicians

As already indicated, in the past, the nation has not had an effective health manpower policy addressed to workers at the highest health professional levels. We do not consider the various programs that support the creation of more physicians as meeting that definition, for that set of efforts does little to address the real problems that confront American medicine, the problems associated with physician distribution and with the utilization of their services. Indeed, the realities of the physician market are such that policies to increase the aggregate number of physicians may yield "perverse" results, enhancing inefficiency in the production of health services, stimulating an increase (rather than a decrease) in the fee structure, and even contributing to an increase in perceived shortages. All these can occur if physicians, able to affect demand and motivated by a desire to attain target incomes, act in ways designed to increase the total demand for services, raise fees to compensate for possible declines in per physician output, and distribute themselves in such a way as to widen the disparities between affluent and underserved areas, thus leading to an ever-growing relative "shortage." To a

significant extent, in fact, previous policy has led to these outcomes.

Such outcomes would be distressing had they been entirely the product of private behavior and had the costs of adding to physician supply been borne by physicians themselves. The results, therefore, are doubly distressing when we consider that, to a significant extent, they arise as a function of third-party (including government) fee structures and in conjunction with a large public subsidy for the education and training of physicians. Medical education is expensive and, for a variety of reasons connected to the federal support for medical schools and for medical research, has become increasingly expensive. Much of this expense is now borne, both directly and indirectly, by government programs and public and private third parties: state governments support schools and scholarship aid; federal programs provide student aid, support faculty through medical research grants, and fund capitation grants to schools; and clinical training, especially in hospitals, has a large hidden cost that is passed on to public and private third parties. While this subsidy has done much to increase educational opportunity, the combination of subsidized education and relatively uncontrolled third-party payments (a combination that yields a high rate of return to private investment in medical training) and the recognition that the subsidy has not produced the "right" kinds of doctors in the "right" kinds of places is affecting the attitudes of those who must provide the funds.

We are far from placing controls on the incomes of physicians (though, as we have already indicated, national health insurance is likely to be accompanied by more diligent efforts to control fees and more diligent review of the quantity of services provided--indeed, the beginnings of such efforts can already be discerned). We are not, however, very distant from more forceful attempts to "recoup" part of the subsidy for medical education by requiring that physicians serve for a period of time in areas of medical need. Furthermore, it is likely that stimulated by federal intervention, greater attention will be paid to the number and distribution of the various residencies in an effort to reduce the specialty maldistribution.

Current legislative debates concerning health-manpower legislation have centered around these very issues: specialty and geographic distribution of physicians and their interrelationship. As new legislative initiatives are implemented, it will be necessary to assess their impact on the organization of health care and its interface with manpower issues. Changes in the specialty distribution of physicians, for example, can be expected to affect the demand for particular kinds of facilities and labor that are complementary to particular specialties. This may be especially so for teaching hospitals, institutions that employ significant numbers of workers and that are often located in inner cities. Similar impacts can occur as the result of changes in the locational distribution of physicians.

It should be clear that we do not suggest that changes in the distribution of physicians will occur easily or rapidly. Neither do we suggest that the impact of these changes, as they do take place, will have dramatic effects on the occupational and geographic distribution of other health workers. Yet, over long periods of time even marginal changes have substantial cumulative impacts. Thus, an active policy designed to alter physician distribution will need careful monitoring. This will be particularly so since these shifts in professional health manpower policy will take place in conjunction with the second set of changes that we shall turn to, the new and growing emphasis on primary care and ambulatory medicine.

Growing Emphasis on Primary Care

American health care has increasingly come to mean crisis intervention, often in a hospital setting and related to acute conditions. By far the largest proportion of the health care dollar is expended in hospitals. By far the largest proportion of health sector employees are found in that setting. The American hospital affects dollar flows, the organization of the health care sector, medical education, the location of practitioners, and every significant characteristic of American medicine. Indeed, in the public perception, medical care has often meant hospital care.

Associated with the fact that the hospital has been extending its influence on the American health economy and on American health care has been the rapid increase in specialization and subspecialization. As the

scientific knowledge base of medicine increased, persons were educated and trained to apply that knowledge in institutions that could mobilize the additional resources required to do so in an effective and efficient manner. Medicine undertook the effort to conquer new worlds. Regrettably, in so doing, it neglected important aspects of the old.

As subspecialization grew, the number of physicians available to render primary care, particularly in ambulatory settings, declined. It became ever more difficult to gain access to practitioners able to deal with and interested in dealing with "everyday" problems, with self-limiting diseases, with concern and fear. There were fewer physicians who addressed the whole patient rather than particular organs of disease entities. What is at stake is not medicine's ability to handle the "trivial"; there is nothing trivial about patients' concerns, about early diagnosis and preventive care, or about the efficiency and efficacy of high quality, first-line care carried out in settings that do not entail the mobilization of vast technological resources.

The lack of a sufficient number of practitioners prepared to offer access to primary care services had important effects on the American health care system. Among these was the extensive growth of outpatient departments and emergency rooms in hospitals. For many Americans, not only the poor, these became the primary care delivery system. As such, they were inefficient and strikingly expensive, but they did provide access to care.

We have already discussed the thrust of new legislative efforts to address the specialty distribution of American physicians in the context of the significant subsidy provided to medical education and residency training. Much of that thrust derives from the recognition that some specialties appear to have an oversupply of practitioners, leading to "overdoctoring," excess surgery, a growth in the volume and complexity of procedures utilized per patient. Much of the thrust also derives from the view that at the same time that there are too many of some kinds of specialists, there are too few physicians able and willing to deliver primary care services. Stimulated by federal efforts and by federal funds, attempts are now being made to develop new curricula for the education and training of primary care practitioners and to increase their role in the American health care delivery system.

It is far too early to assess the degree to which these efforts will be successful. In our view, the organization of the health delivery system, fee structures, and methods of payment by third parties, may have a far greater impact on primary care delivery than will derive from changes within the medical school and its teaching hospitals. Nevertheless, the potential impact of changes within the educational system cannot be ignored, and most particularly so if they occur at the same time as more coherent attempts to alter the arrangements within the delivery system itself are undertaken (for example, in the context of national health insurance). Given the influence that physicians exert on resource allocation, we should expect that an increase in the number of primary care practitioners would lead to an expansion of resources devoted to ambulatory and, perhaps, to chronic and long-term care. In turn, these new directions and points of emphasis would have an impact on the occupational structure of the health labor force and on the level of employment within various kinds of health care settings.

The emphasis on primary care will have an impact on medical education and training. It is likely that schools of medicine will have to undertake new responsibilities to help organize ambulatory care settings in which students can participate in learning and delivering medical care. If this occurs, or even if schools, while not developing them, affiliate with such settings, the expansion of such institutions as neighborhood health centers, prepaid group practices, and similar organizations will help create job openings for health sector workers.

There is little reason, however, to assume that the growth in jobs in ambulatory care would fully compensate for possible declines in the number or previous rate of expansion of jobs available in the hospital sector. This assumption may be unwarranted because the input factor proportions in these two modalities of care surely differ and because the expansion of primary care would take place during a period of increased emphasis on fiscal constraints and on efficiency in the organization and delivery of care. Thus, the addition of ancillary employees to the primary care delivery system would likely come under careful scrutiny and review. In such an atmosphere, employment growth would hardly be likely to be rapid or "explosive." We are aware that the converse can be argued: that expansion of the primary care effort would create many

opportunities for the development of new kinds of labor that could, in part, substitute for physicians and, further, that fiscal constraints and efficiency considerations would encourage the employment of such workers. Yet, it is not at all clear that such labor would in fact be utilized, given the rapid increase in the total supply of physicians, a major change that we will discuss subsequently. To look, therefore, to primary care developments as a significant source of new employment opportunities for health care workers may prove fallacious. It will be important to gather and analyze information on these developments on a continuing basis.

Growth of Prepaid Group Practice

The concluding comments in the previous section serve as an introduction to a discussion of the third change of significant potential impact on the labor market for physicians, the growth of prepaid group practice. A considerable expansion of this form of organization would have a most remarkable affect on the distribution of and labor market for physicians (and consequently would have an impact on a wide variety of health occupations and workers and on the locus of their employment).

The stimulus to the fedearl support for the development and expansion of prepaid group practices derives from a number of factors, perhaps most important, efforts to control the costs of medical care. A number of prepaid group practice arrangements have demonstrated their ability significantly to reduce the number of days of hospital care utilized by the enrolled population and have, therefore, had an increasing amount of attention devoted to them by government policy makers. While the lower utilization of hospital care has obvious financial implications and is of consequence to the potential level of employment within the hospital sector, we shall focus our discussion of prepaid group practice on a very different point: the implications for the physician labor market.

In a prepaid group practice arrangement, individuals or groups enroll, pay a fixed premium, and are entitled to receive medical care services as needed. Holding the quality of care provided at an equivalent level to that of other providers, the crucial constraint on the organization is that there is a fixed amount of revenue: the product of the premium per member times the number of members. This fixed revenue necessarily means that there

must be budgeting devices and attention devoted to the allocation of scarce resources. The absence of fee-for-service arrangements and of third-party reimbursement for services rendered creates an entirely different set of incentives and behavior patterns from those found elsewhere in American medicine. Providers are required to organize their activities in such a manner as to stay within the income received. To the degree that they are unable to do so, they are required to seek premium increases that must be justified to the membership as necessary to add resources in order to provide the needed services. Such premium increases may not come easily and, in any case, affect the prepaid group practice in a competitively unfavorable way. Thus, the incentive to stay within the defined budget is great.

Physicians who render care in prepaid group practice settings have a wide number of different financial arrangements under which they receive their remuneration. For the purposes of this discussion, however, it is not important to distinguish among them. For us, the important point is that the prepaid group practice creates a new kind of labor market for physicians. If there is to be no additional fee-for-service income generated by providing services, if there is a fixed revenue associated with a defined and enrolled population, the prepaid group hires or asks physicians to associate themselves with it only as these practitioners are needed, specifically as the enrolled population expands, and as additional revenues are present. Thus, the number of physicians working in the prepaid group practice setting reflects the clinical needs of the population.

Were all of American medicine to be organized around the prepaid group practice model (with premium rate competition and/or direct regulation setting premium rates and quality levels), physicians would have to distribute themselves in relation to the specialties and locations that had employment vacancies. The implications of such a basic change as the creation of a job market for physicians, on a wide variety of issues in American health care (for example, access to care) would be far-reaching indeed. The labor market for physicians would take on the characteristics of labor markets that dominate the American economy and that we are all quite familiar with. Physicians would seek employment in ways quite similar to those used by college professors, engineers, scientists, and other highly skilled professionals who are not self-employed. While such a complete and radical change in the

organization of the American health care delivery system is not likely to occur, the expansion of prepaid group practices and of other forms of ambulatory delivery systems (for example, neighborhood health centers), when combined with the expansion of full-time hospital staffs, will inevitably radically alter the labor market for physicians. Furthermore, it is likely that an increasing proportion of newly trained physicians will desire to practice in group settings or small partnerships rather than as solo practitioners. Although such arrangements will not involve the budgetary control that derives from fixed revenues, they will, nevertheless, increase the difficulty that individuals may have in making their location and specialization decisions with little reference to supply considerations and to the clinical needs of the population. The ability of the physician to validate his professional decisions will face new constraints. If it is less feasible for a practitioner to hand out his or her shingle in almost any chosen area, if he/she will have to seek an employer or an associate, there will have to be a new awareness about and concern with supply conditions and market constraints.

Those who study labor markets and those with a manpower responsibility to increase the efficiency with which those markets operate should be aware of the possible new responsibilities and opportunities that they will face. While the changes in the organization of medical care will not come quickly and will surely not come to dominate the American scene for many years (if at all), they may become of great significance in some areas of the country. Careful attention to developments in those areas will be especially necessary. If the consumer is to derive the full potential benefit from these developments, those with experience in manpower issues will have to be prepared to offer their assistance to organizations that have little background in analysis of organizational issues.

The growth of prepaid group practice may change the market for other types of workers as well, most notably physician extenders, who range from the traditional office nurse and aide to specially trained pediatric nurse practitioners and physician assistants. These workers are trained to do some of the tasks traditionally carried out by physicians, tasks that do not require the high level of training or scientific medical judgement that physicians must have. Such personnel can be trained in

less time than can physicians, and their incomes are substantially lower. Substitution of physician extenders for physicians in the provision of some services has been shown to be technically feasible. In a prepaid group practice setting, characterized by strict budgetary controls and incentives for efficiency, employment of these workers can be economically feasible as well, since they allow the organization to economize on expensive physician labor.

However, even in this institutional setting where economic constraints and incentives encourage physician-extender employment, this may not occur. Traditional ideas about the proper input mix for medical care production are very strong, not only among consumers but, more important, among physicians, who essentially control the use of other inputs in the medical care sector. Our concluding remarks in the previous section already indicated some of the problems that physician extenders may face in finding employment. It will be important for manpower policymakers to be aware both of the potential for physician extenders and of the possibility that jobs for these workers may not materialize even in institutional settings that appear to be ideal for them. In part, this may be the case because of the rapid increase in physician supply, the subject that we now turn to.

Increases in Physician Supply

The United States is witnessing an extremely rapid increase in the number of medical schools and in the number of students in them. (See Table 13.) The "pipeline" has expanded greatly in the last decade. As a result, the stock of physicians will undergo significant expansion in the years ahead. Although the United States population is increasing, the rate of increase is substantially less than has been true in earlier periods. As a consequence, the physician-population ratio will climb rapidly.

This, combined with some of the changes that have already been discussed, may significantly alter the distribution of practitioners. While in the past, new physicians seemed to distribute themselves in substantially the way that those already in practice were distributed, the nation has not previously faced such a rapid increase in the number of practitioners. Even under the "old rules" of the medical care market, the current rapid increase in

Table 13. GROWTH OF AMERICAN MEDICAL SCHOOLS, STUDENTS, AND GRADUATES, 1950-1979

Academic Year	Number of Schools	First-Year Students	Graduates
1950 - 51	79	7,177	6,135
1955 - 56	82	7,868	6,845
1960 - 61	86	8,298	6,994
1965 - 66	88	8,759	7,574
1966 - 67	89	8,964	7,743
1967 - 68	94	9,479	7,973
1968 - 69	99	9,863	8,059
1969 - 70	101	10,401	8,364
1970 - 71	103	11,348	8,974
1971 - 72	108	12,361	9,551
1972 - 73	112	13,726	10,391
1973 - 74	114	14,185	11,613
1974 - 75	114	14,963	12,714
	Projections for 114 Schools		
1975 - 76		14,874	13,505
1976 - 77		15,262	13,818
1977 - 78		15,516	14,452
1978 - 79		15,821	14,849
1979 - 80		15,946	14,999

SOURCE: Journal of the American Medical Association, Vol. 234, No. 13 (December 29, 1975), p. 1338.

physician supply might have forced physicians to incorporate supply considerations into their decisions regarding specialization and location of practice. Under the new rules--a greater emphasis on primary care, active attempts to influence locational decisions via required periods of service and to control specialty distribution via limitations on the number of available residency positions; increased emphasis on organized structures for the delivery of ambulatory care, including emphasis on prepaid group practices; and finally, greater review of the type and quantity of services delivered by individual physicians as part of an expenditure-control policy--the increased supply of physicians are likely to face radically changed labor market constraints.

It would be foolish indeed to contend that we can be certain that we are at the beginning of a period in which a number of forces, acting together, will have a significant impact on the existing distribution of physicians. Certainly there is little in the historical record to help us in our analysis and to suggest that that will be the case. The historical record, however, provides no evidence by which we can assess the impact of such a significant and rapid increase in physician supply and especially one coinciding with more active health manpower distribution policy and more vigorous efforts at expenditure control. We believe that there is strong reason to keep developments under careful review. Given the possibilities, health manpower policy may be required to make much more rapid adjustment and be far more flexible in the future than has been the case in the past.

Manpower analysis will also be required for more active consideration of policies regarding the in-migration of foreign medical graduates. In the past, such in-migration has been supported partly because of our perceived physician shortage and our maldistribution problems. Table 14 indicates how substantial has been the contribution of physicians trained abroad to our available physician supply. Often, they have been willing to take positions avoided by American doctors. As the number of American graduates increases, pressures may build for a change in our existing immigration policy. It will be necessary to consider foreign medical graduate migration in the broad context of general immigration policy, taking account of the value of American post-graduate training to foreign physicians and the needs of their home countries for their services, as well as our own changing physician labor markets.

Table 14: FOREIGN PHYSICIANS AND SURGEONS ADMITTED TO THE UNITED STATES IN COMPARISON WITH NUMBERS OF U.S. MEDICAL GRADUATES, 1962-1973.

Fiscal Year	U.S. Medical Graduates	Foreign Physicians A/			
				Nonimmigrants	
		Total	Immigrants	Exchange Visitors	Other
Total 1962-73	97,809	101,066	43,089	55,360	2,617
1962	7,168	5,767	1,797	3,970	N.A.
1963	7,264	6,730	2,093	4,637	N.A.
1964	7,336	6,767	2,249	4,518	N.A.
1965	7,409	6,172	2,012	4,160	N.A.
1966	7,574	6,922	2,552	4,370	N.A.
1967	7,743	8,897	3,326	5,204	367
1968	7,973	9,125	3,128	5,701	296
1969	8,059	7,515	2,756	4,460	299
1970	8,367	8,523	3,158	5,008	357
1971	8,974	10,947	5,756	4,784	407
1972	9,551	11,416	7,143	3,935	338
1973	10,391	12,285	7,119	4,613	553

A./ Including Canadians.

SOURCE: Lockett and Williams, 1974.

Changes in the number and distribution of physicians will necessarily have an impact on other health personnel. This, as we have already suggested, may be especially true in regard to physician extenders. For some time, a significant amount of attention has been directed toward the development and utilization of physician extenders. The interest in such personnel, including the active federal interest, arose from a number of considerations. To some analysts, the physician-extender movement represented a way to provide civilian counterpart jobs for medical corpsmen who had acquired medical skills during the Vietnam War. Others, recognizing the difficulty that a number of areas (particularly rural) had in attracting physicians, viewed the physician extender as an integral part of a health care network that would reach into areas that had traditionally been underserved. Still others, interested in increasing the supply and availability of physicians' services, and particulary those services that could be performed only by physicians, viewed the physician extender as the mechanism by which efficiency could be increased: the extender would relieve the physician of a considerable part of his "routine" work and thus permit the physician to spend this time on that which he and only he could do. Finally, some felt that physician extenders could not only increase the amount of available services but, because of their potential interaction with patients, could offer more guidance, counseling, and compassion, thus increasing the quality of care.

Nevertheless, it remains the case that most physician extenders who are especially trained for that task are employed in organized settings, not in physicians' offices or in association with solo practitioners. The reasons for this phenomenon appear to involve legal relationships, medical traditions, and some degree of unwillingness on the part of individual practitioners to reorganize their practices and assume the burdens of management. Reimbursement mechanisms that specify lower or no fees when assistants, rather than physicians, perform certain services also reduce the physician's incentive to hire these workers. In rural areas where physicians are hard pressed and where emergency rooms and outpatient departments are relatively unavailable, physician extenders have been well received; in urban settings, however, this has not been the case.

There is a certain irony in timing: the greater acceptance of the role of physician extenders and the greater recognition of the increase in system efficiency that can result from this new division of labor comes at the very moment when the supply of physicians is increasing dramatically and when active consideration is being given to policies designed to alter physician distribution. To some degree, therefore, the relative need for physician extenders will decline. While it may be the case that the utilization of physician extenders would nonetheless increase system efficiency, there appear to be few incentives that would assure their employment and utilization. In the past, their utilization has come under the pressure of a demand for medical care services that could not be met or turned away, or in institutional and organized settings that faced budget constraints and had to search for efficiency in a world of scarce resources. While the latter phenomenon will continue, it is not difficult to imagine--in the absence of third-party payment mechanisms that reward efficiency and directly encourage employment for extenders--that the new and larger supply of physicians will adopt what would be called featherbedding responses in other parts of the economy. Thus, in deciding whether to hire an extender, the individual physician will be even more prone to ask himself whether there will be enough work to go around, whether the increases in gross income generated by the physician extender will provide sufficient after-tax income to compensate for the increased aggravation of management, the lessened direct involvement with patients, and the demands of a larger patient load, or will even be sufficient to pay the required salary.

In sum, it may well be the case that the willingness of individual practitioners to employ physician extenders may decline even below its present level. Furthermore, the availability of an increased number of active physicians may set limits on the desires of institutions to utilize physician extenders. The availability of "real" physicians and the possibility that in the context of rapid supply increases, the "market price" for physicians will fall, is likely to reduce job opportunities for extenders. Both these forces call into question the projection of significant increases in their employment.

These conclusions could be altered were payment and reimbursement mechanisms to change and were third parties (under national health insurance, the federal government) to adopt a set of policies purposefully designed to create employment opportunities. Given a continuation of present policies to expand medical education and to increase physician supply and given the role that physicians play in setting the ground rules for the utilization of other kinds of personnel, we are not optimistic that this will occur. It becomes imperative, therefore, that manpower specialists (including health manpower specialists) who, on the grounds of efficiency, would develop and fund programs to train an increased number of extenders, undertake continuing assessment of existing and developing job markets. The traditional view that pervades the health field that the usefulness of certain kinds of personnel demonstrates their need and that "need" assures the availability of job is insufficient.

Thus, as we have seen, the changes in the aggregate supply of physicians and the various changes that are designed to affect their distribution will provide a continuing agenda for manpower analysis. These developments may help create a more effective physician labor market. They will also have an impact on the number of health occupations and on the availability and location of health employment. We have attempted to suggest some of the outcomes that these departures might entail. As policy unfolds, it will be imperative for those with expertise in issues involving labor market analysis and employment and training policy to maintain a continuing review of the changes that are occurring.

V. SUMMARY AND CONCLUSIONS

Summary

The American health industry is a major sector of our economy. Health expenditures account for over 8 percent of the Gross National Product. Health workers number over 4 million, representing over 5 percent of the employed work force. Thus, trends within the health sector are significant determinants of manpower, employment, and training needs and policies. These trends require careful monitoring and assessment.

This is especially the case because the health sector is governed by a set of unique economic arrangements that tend to remove it from the normal interplay of market forces. Its labor force is composed of two groups of very diverse workers: one group with a high degree of education (and, in general, high income) who are able to practice in independent fashion and, often, are self-employed; another group, comprising the vast majority of health workers, who practice under the supervision of others and who are employed by institutions and independent practitioners. Many health institutions are financed in whole or in large part by government, either in the form of payment for services rendered to patients or by funding of major parts of annual budgets. A significant volume of services are utilized by persons who face a distorted price structure at the time that they seek service: the fees that they pay on an out-of-pocket basis are only a small fraction of the actual costs involved in rendering the service. While millions of persons seek and receive care annually, a relatively few organizations (government, voluntary, and commercial insurers) account for a very considerable proportion of the total dollar flow.

In recent years the share of total dollar flow provided by government, in particularly by the federal government, has increased rapidly. The Medicare and the Medicaid programs have altered the economics of the health delivery system: the source of funding, the "rules of the game," the nature and sources of power.

Reflecting the increasing volume and changing pattern of health financing in the last decade has been the rapid growth in health sector employment: up from 2.6 million to 4.3 million persons during the decade of the 1960s.

While the definitions employed in census and intercensal years differ making it impossible to derive strictly comparable data for the most recent years, it is evident that health sector employment has continued its increase (albeit at a slower rate). To the degree that the health sector has stood ready to provide employment to many in the American labor force (particularly to women and to blacks), the health industry has played a significant positive role in easing the nation's manpower problems. It would be erroneous, however, to extrapolate previous growth trends into the furture and to assume that the health sector will continue to expand rapidly in the coming decades, providing an ever-increasing number of jobs to American workers. Various factors lead us to question any assumption of that kind. Instead, we are led to conclude that in many important respects, the world of tomorrow will look quite different from the world of yesterday. The rate of growth in health sector employment may decline significantly. Furthermore, a significant shift from a situation of rapid growth to a situation of relative stability will bring with it a variety of associated manpower problems, problems that are not of as great consequence in an expansionary situation. Thus, the issues for the future involve a number of micro questions as well as questions of a macro or aggregate kind.

The forces that we feel will restrain future rapid expansion of the health care industry are already surfacing. They are doing so as a reaction to the rapid increase in expenditures for health care in recent years. This expansion has been fueled by an increase in the total amount of services provided as a result of growth in population, income, public taste for medical care, and the ability of consumers to pay for care through private insurance plans and public health care programs. It has also been fueled by a rapid increase in health care prices, in part resulting from the increase in consumer demand, in part from the nature of payment mechanisms and reimbursement procedures, and in part from the induced increase in inputs per unit of output. In combination, the various forces have encouraged and made possible the employment increases. They have also caused the explosive situation that has led to attempts to control future expenditure growth.

These attempts involve the assumption of a more active role in the health care marketplace by the major payers for care: insurance companies and government agencies. These payers are finding it ever more difficult to raise premiums or taxes and, therefore, are increasingly concerned about health care costs and utilization, and increasingly willing to engage in active bargaining with health care providers. Their ability to bargain effectively is enhanced by public attitudes of skepticism about the efficiency of the health care delivery system and an increase in public acceptance of the need for regulation of the health care market. Thus we witness the development of measures to affect utilization controls both through monitoring procedures and through restraints on expansion of institutional capacity. Similarly, a number of states are undertaking active efforts to restrain unit cost (price) increases.

It is too early to judge the speed with which these various efforts will be implemented and the degree to which they will be effective. Nevertheless, it is apparent that the climate within which health institutions will function is changing, and changing in significant fashion. The attitude that the resources available to the health sector are limited and that expansion decisions need careful examination and justification cannot help but have a considerable impact on employment prospects, particularly in institutions.

The arguments presented suggest the high probability of a considerable slowdown in the rate of expansion of the health sector. Various forces will continue to exert expansionary pressures on the system. Of these, the most powerful could be the enactment of a universal and comprehensive system of national health insurance. We believe, however, that even the pressures resulting from national health insurance can, and are likely to be contained. Although the outlines of such a program and the speed with which it might be implemented are not yet clear, it does seem apparent that both the legislative and executive branches would favor a national health program only if strigent controls on the delivery system, controls designed to rationalize the delivery of care and restrain expenditure growth, are enacted at the same time or in advance. A permissive national health program is not likely to command support. The various controls may, of course, not prove fully effective,

particularly so in the early years. We anticipate, however, that over the longer run the pressures toward restraint would outweigh the pressures toward continued expansion. Indeed, there are a number of observers who claim that the effectiveness of expenditure restraints would be enhanced under national health insurance.

The change in the economic arrangements within the health sector is already affecting the nature and the structure of job opportunities and health occupations. Unionization and the improvement of working conditions within the major health institutions have increased the attractiveness of health jobs relative to the situation prevailing only a few years ago. As a consequence, it is likely that new workers will be drawn into the health labor market at the very time that employment growth slows down. While it is impossible to be certain about the consequences of these kinds of shifts--it is, for example, not clear what will be happening to wages and working conditions in other parts of the economy--we must be alert to the potential implications of these changes. There is the danger that if the number of health jobs does not continue to expand rapidly and if, at the same time, there are more men (particularly white men) competing for positions, job prospects for women and minority group members will decline. Since the health sector is a particularly large employer of these persons, such a shift would have a significant impact.

The slower growth of health employment will also affect the growth of health occupations and will significantly increase the cost of occupational rigidities and, thus, the benefits of occupational flexibility. In the past, the health sector has been characterized by a heavy reliance on "credentials." As employment growth slows down, the disadvantages both to institutions and to individuals of such reliance will grow, and special efforts to enhance occupational flexibility will become ever more necessary.

Health policy developments will also have a significant effect on independent professionals. We anticipate that a number of potentially significant changes may soon occur in the structure of the market for physicians, a high proportion of whom are self-employed. In the past, physicians have been able to validate their own specialty choice and location of practice decisions.

Their power to do so derived, in large measure, from their ability to influence the demand for health care. As a consequence, the distribution of physicians has not reflected the clinical needs of the population.

We see four developments that are likely significantly to affect the future distribution of physicians and the structure of their labor market: new policies to redistribute physicians, an increased emphasis on primary care, expansion of prepaid group practice, and rapid growth in the number of physicians. These developments and the changes that they might bring are interrelated, and their effects on the physician labor market (and, as a consequence, on other health workers) are cumulative. A change in the specialty distribution of physicians, for example, and in particular a relative increase in emphasis on ambulatory care, would affect the demand for particular kinds of facilities and associated labor. An increase in emphasis on primary care would have an impact on medical education and on teaching hospitals. The growth of prepaid group practice would strengthen the development of a physician job market. Budgetary pressures that such organizations face could encourage the utilization of workers who, in part, can substitute for physicians and would encourage a distribtution of physicians that more nearly reflects the clinical needs of enrolled populations.

The various changes will take place in the context of a significant increase in the supply of physicians. This increase in supply will importantly affect the possibilities for, and the nature of, the attempts to rationalize the health care delivery system. It will have important implications for future medical care costs and will affect the opportunity for, and the willingness of, the system to accommodate itself to utilization of more efficient nonphysician resources.

Thus, we conclude that the health care system is in the process of undergoing important changes in a number of its fundamental characteristics. It is, therefore, erroneous to assume that we can extrapolate previous trends. Given the size and importance of the health care sector, it becomes imperative that we acquire a much richer understanding of the importance of these changes and their possible implications for health sector employment.

Recommendations

Our discussion and the various conclusions they suggest lead to the following recommendations:

1. In an atmosphere of fiscal constraints and changing health care policy, it is imperative that manpower experts participate in discussions concerning future directions of the health care sector. Major changes with significant health employment impact may occur. It is necessary that fiscal and health authorities recognize the manpower and employment aspects of the various options they consider and that manpower experts be fully aware of possible impacts on the labor market of the various decisions that are taken.

2. As the growth in health employment slows down, there may be pressures for the development of mechanisms to subsidize employment or to increase public employment in the health sector. In the interests of pursuing responsible health care policies as well as responsible employment and training policies, it will be necessary to avoid adding employment by expanding existing services. There are a large variety of unmet needs in health care and in social services. It would be far better both for the health sector and for the workers within it for policy to address these needs rather than to create redundant jobs.

3. To the degree that wages and benefits for employees in the health sector have improved, jobs in that sector will become relatively more attractive to "advantaged" workers. It will be necessary to monitor carefully the implications of this change. In the past, various minority groups and women held many of these jobs. In the future, action for equal employment opportunity may be required, since with the availability of advantaged workers, discriminatory hiring practices may appear.

4. As growth in hospital employment lessens, it will be necessary for public authorities to intervene more actively to alter the credentialing and certification processes for various health occupations. The cost of inflexibility is always high. It is likely to be even higher in a slow-growth situation. Special attention must be paid to these matters, since the greater the barrier to occupational mobility, the greater the difficulty that training institutions have

in predicting demand for their graduates, and thus the greater the risk of unemployment. Health policy makers should be aware of the impact of their proclivity to equate input quality with output quality, and attempts should be made to encourage more flexible staffing patterns for health providers.

5. A new kind of labor market for physicians may develop. The insights of manpower experts are likely to be valuable in understanding new labor market arrangements and in increasing their effectiveness.

6. As the number of physicians increases, it will be necessary to rethink policies affecting foreign medical graduates. Review of existing policies should take place within the framework of American general immigration policy.

7. Special attention and continuing review should be directed to issues associated with physicians extenders and nurse practitioners. There appears to be evidence that they increase the efficiency of the medical care delivery system. Nevertheless, there may be insufficient jobs available for them. An increased supply of physicians and the fact that standards of care are professionally defined may inhibit their utilization. Federal health care policy, however, can encourage their employment, particularly in prepaid group practices and similar organizational settings. Active collaboration between manpower and health policy experts is necessary to develop appropriate policies and to provide information about expected changes.

8. In order that public policymakers be better informed, a research agenda directed toward further exploration of the various issues raised should be developed. Studies of the interaction between health and manpower trends at both macro and micro levels would prove useful. For example, at the macro level, it would be worthwhile to develop a statistical base relating demand for various broad types of health services (hospitalization, outpatient services, rehabilitation, long-term care, preventive care, dental services, health education) to manpower inputs by occupation. The employment implications of future demand shifts, induced by public policy changes and other trends, could then be more accurately projected. Useful micro studies include labor-supply studies linking changes in the composition of health sector employment to relative wage shifts;

case studies of the impact of health sector unions on wages, conditions of employment, job stability, and on the management of health institutions; evaluation of the effect of rigid credential requirements on health care costs; investigation of the impact of the regulation of unit costs and total budgets and of the diffusion of technological advances (such as hemodialysis and computerized axial tomography) on the level and composition of employment; and studies of the changing decisions process in regard to location and specialization of new physicians as they respond to rapid increases in physician supply, growing emphasis on primary care, and new payment mechanisms and controls.

9. The most important and critical recommendation that we make is that there be full recognition that policies in the health sector have significant reverberations throughout health labor markets. Since the health care sector is a large employer, health care policies have a substantial impact on manpower policy and on employment and training. It is, therefore, vital that there be a full exchange of information, collaborative sponsoring of research studies and demonstrations, and full joint discussion of important issues. The development of appropriate health and manpower policies requires more effective coordination.

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